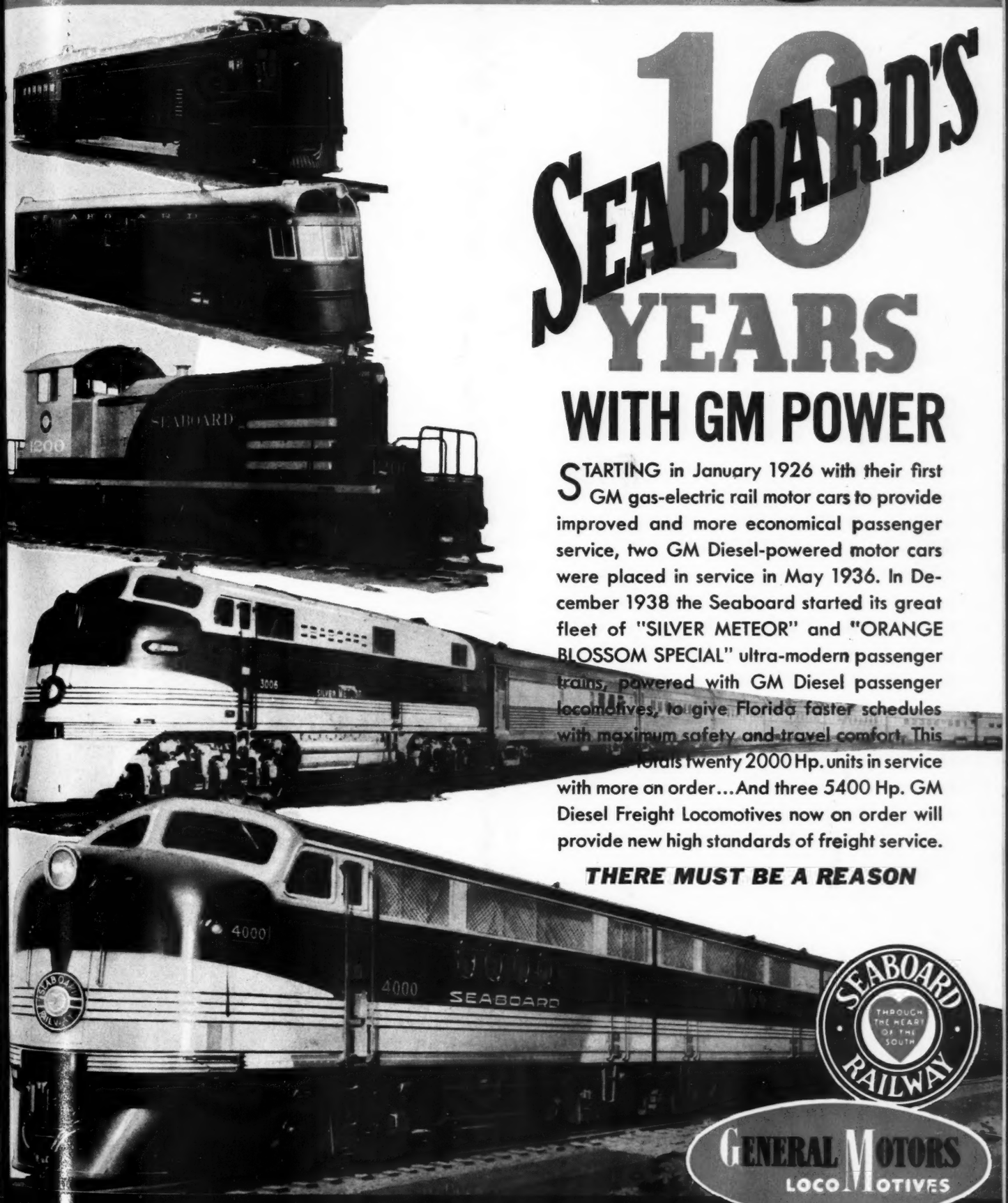
DECEMBER 20, 1941

Railway Age



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STARTING in January 1926 with their first GM gas-electric rail motor cars to provide improved and more economical passenger service, two GM Diesel-powered motor cars were placed in service in May 1936. In December 1938 the Seaboard started its great fleet of "SILVER METEOR" and "ORANGE BLOSSOM SPECIAL" ultra-modern passenger trains, powered with GM Diesel passenger locomotives, to give Florida faster schedules with maximum safety and travel comfort. This ...lorida's twenty 2000 Hp. units in service with more on order...And three 5400 Hp. GM Diesel Freight Locomotives now on order will provide new high standards of freight service.

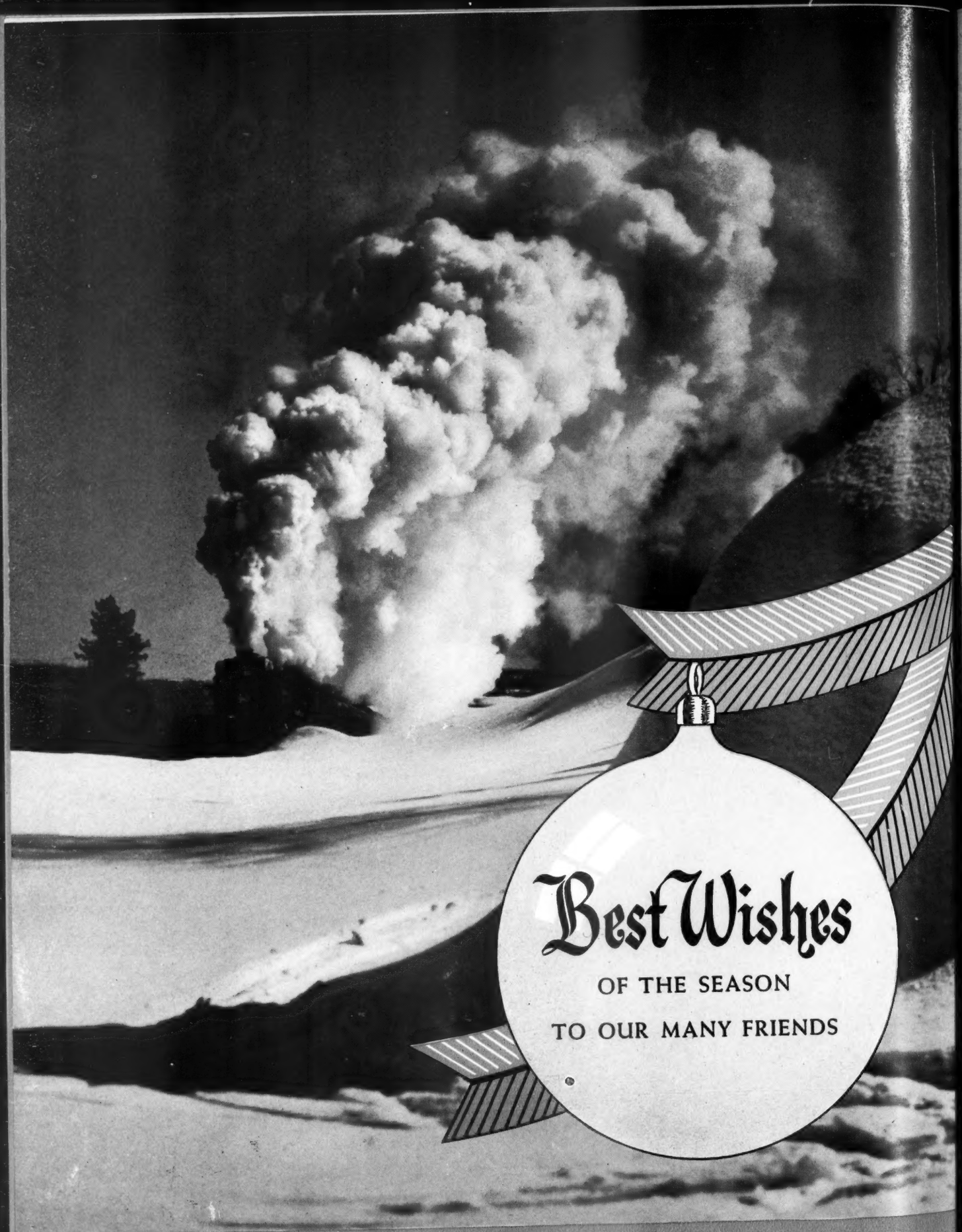
THERE MUST BE A REASON

SEABOARD RAILWAY — THROUGH THE HEART OF THE SOUTH

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE CORPORATION

SUBSIDIARY OF GENERAL MOTORS — LA GRANGE, ILLINOIS, U. S. A.



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Stainless Steel Cars for the Empire State Express . . . . Page 1029

This illustrated article describes the two trains of the re-equipped Empire State —consisting of thirty-two stainless steel cars built by the Edward G. Budd Manufacturing Company and hauled by two locomotives of the 4-6-4 type, which were streamlined in the road's own shops.

Soil Compaction Methods Produce Dense Fills on Line Change 1040

Sand dune stabilization, bank protection work, and three-span bridges over lateral streams are some of the features of the 20-mile diversion on the Santa Fe, constructed by U. S. Army engineers in Colorado, and described in detail in this article.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

PRINTED IN U. S. A.

The Trend Is Toward
"Union" CODED TRACK CIRCUIT CONTROL—

Approximately 3,000 track miles are equipped with "Union" Coded Track Circuits, and this mileage is growing month by month. Experience with actual installations over a number of years has substantiated every claim made when this "Union" development was introduced.

Several roads have made it standard practice to use this system for new work and for all signal replacements. The keen interest being displayed indicates that a large proportion of new signaling will employ the Coded Track Circuit principle.

Increased reliability in performance and safety of train movement result from the fact that the track rails are used as a path for control circuits, and in many cases line wires are completely eliminated. Let us explain other important advantages of this system.

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RAILWAY AGE

War—and the Biggest "Pork Barrel" in History

In a competition for the grand prize for gross and ruinous inconsistency we would enter the following examples that are being provided for our federal government:

First, the federal government increased its expenditures from 3,793 million dollars in the year ended June 30, 1933, to 9,445 million in the year ended June 30, 1940—**all for non-defense purposes,** because all made before the nation's defense effort was begun.

Second, the federal government, while now—to prevent inflation and interference with conduct of the war—using priorities to curtail output of many non-defense products and urging the people drastically to curtail buying of these products, is going ahead not only maintaining but increasing, and proposing further to increase, its own expenditures for **non-defense** purposes. The most glaring, indefensible illustration is the bill favorably reported by the Rivers and Harbors Committee of the House for expenditures on 238 different projects of 988 million dollars—the biggest "pork barrel" bill in all history, although the nation is now at war throughout the world and planning to spend 45 billion dollars for war purposes in 1942 and 60 billion for these purposes in 1943.

Political Strategy of the Pork Barrel

Third, in the Transportation Act of 1940 Congress provided for creation of, and the President has appointed, a Board of Investigation and Research to report upon "the relative economy and fitness of carriers by railroad, motor carriers and water carriers," and "the methods by which each type can and should be developed." Obviously, under the terms of the law all these 238 waterway projects should be referred for investigation and report by this new board; but it is apparently not the intention to refer any of them to it. In addition to which the House Committee on Appropriations last week refused to recommend an addition of $246,500 to this board's previous fund of $100,000. A billion for a "pork barrel," but not even a quarter of a million with which to investigate whether this and many more billions of past and prospective government expenditures for real or wholly fictitious "transportation" purposes can be justified! Later on, the funds needed were provided, but not until the board agreed to investigate interterritorial freight rates—a question on which public hearings serve local political purposes of the same type that are advanced by the absence of critical scrutiny of waterway projects.

And all these and other vastly increased expenditures for **non-war** and **political** purposes, while the government is calling on the people to adjourn politics and unitedly, patriotically and enthusiastically bear the enormous, incalculable burdens of the most gigantic of wars. Must we have all the real saving, all the real sacrificing, all the economic sense, all the real, courageous patriotism outside the District of Columbia?

This pork barrel bill includes all the highly-controversial canal projects—the St. Lawrence seaway, the Florida ship canal, the Tennessee-Tombigbee waterway, the Beaver-Mahoning canal—and also many less colossal and even trifling local waterway schemes. The political strategy is to bring together all waterway projects, large or small, for which any local agitation exists, and thereby make it impossible for legislators to secure consideration of the demands of their own constituents, however modest, unless they vote for the huge socialized transportation projects in which the administration is actively interested (with support from allegedly "conservative" quarters).

If these large projects were presented one at a time, doubtless all would be defeated. The average Congressman is a member of the middle class and thriftily inclined; he wishes to protect the general public interest—excepting where this may conflict with holding his job. Political strategists who have a project which runs counter to thrift and the general welfare have therefore learned to annul the Congressman's loyalty to these two laudable concerns by appealing to his cupidity in behalf of his constituency. This strategy reflects upon the national leaders responsible for it much more than upon the local legislators to whom it often gives the choice between repressing their moral and patriotic impulses or retiring to private life.

Eighty-nine Per Cent of Outlay on 14 Large Projects

The large projects (i. e., each of those involving an estimated expenditure of more than $10,000,000) are set forth in the accompanying table. These 14 largest projects represent almost 89 per cent of the total proposed outlay. The remaining 222 comprise only 11 per cent of the total expenditure, and average less than half

a million dollars each—some being as little as four or five thousand dollars. Indeed, 137 (58 per cent) involve expenditures of less than $100,000 each. The success of the political strategy depends upon the accuracy of the assumption that many Congressmen will vote a billion dollars in taxes on all the people, their own constituents included, rather than fail to assure the expenditure of a few thousand dollars in dredging a local creek.

14 Projects Take 89 Per Cent of the Total Outlay

Conn. River, Hartford, Conn., to Holyoke, Mass.	$12,344,000
East River, N. Y.	34,509,000
Savannah River below Augusta, Ga.	28,000,000
Florida Ship Canal	197,921,000
Ala. and Coosa River in Ala. and Ga.	60,000,000
Tennessee and Tombigbee Waterway	66,000,000
Neches and Angelina Rivers, Tex.	23,000,000
Trinity River, Tex.	15,000,000
Miss. River between Ohio and Mo. Rivers	10,290,000
Illinois Waterway and Ind. Harbor Canal	25,900,000
Beaver and Mahoning, in Pa. and Ohio	48,179,000
Snake River, Ore., Wash. and Idaho	30,200,000
Umatilla Dam, Ore. and Wash.	49,470,000
St. Lawrence Seaway	277,056,515
Total	$877,869,515
Average Cost of the Large Projects	62,705,000

"Meeting Rising Costs of Government" by Increasing Non-War Spending

The principal argument in behalf of the bill by the committee majority may be summarized as follows:

It is a "wise public policy" for Congress to authorize a "backlog of sound public works which can be entered upon without delay" when the war ends, thus mitigating unemployment and promoting "the further material progress and economic development of our great country."

And then follows this extraordinary statement:

"In the opinion of the committee it is perfectly obvious that **the only** way by which we can meet **the rising costs of government and the ever-increasing burden of taxation** is to similarly increase the nation's wealth production. The committee is convinced that nothing will make a more substantial contribution to that end than the development of our great water resources for all possible beneficial purposes, including navigation, flood control, irrigation, prevention of soil erosion and power development wherever any of these services can be economically provided."

And then this:

"The prosecution of river and harbor improvement projects is definitely a good investment. No expenditure of public funds brings greater or more direct benefits to the American people than the money which we spend upon our meritorious waterways. Dividends are paid to the general public in the way of reduced transportation costs which is reflected in lower retail commodity costs. These returns far exceed the maintenance costs with a better-than-average return on the investment."

So-Called "Dividends" That the Public Never Gets

And, finally, this:

"Your committee wishes to call attention to the great convenience and enormous savings in transportation costs resulting to the United States in the movement of materials, both raw and finished, used in the construction of military bases and for the manufacture of all manner of equipment by reason of the availability and use of existing federally improved waterways. This only serves to verify the contention that river and harbor improvements in general are of inestimable value in any emergency."

Either through self-deception or to mislead, words are used in this statement with meanings wholly different from those usually associated with them. For example, the word "dividends." Its usual meaning is funds distributed from the net earnings of a business after payment of all expenses of operation, maintenance, depreciation, interest on borrowed money and taxes. Waterways don't pay any dividends whatever in this sense. They don't even yield any gross earnings, because no charges are collected for their use. They yield no taxes, no interest on investment, are not even self-sustaining to the extent of their cost of operation and maintenance. Of course, they benefit some—especially the contractors who build them and the selected shippers to whom they afford transportation service at the expense of the taxpayers. The claim that they yield "dividends" to the public in reduced cost of transportation reflected in lower commodity prices is refuted by overwhelming evidence that the principal users of the waterways are large and partially-monopolistic industries—oil companies especially—that do **not** pass on their lower transportation "costs" to consumers, but base their prices to the consuming public on **railroad rates** and pocket the savings they make by using waterways provided by taxation of this same consuming public.

Why Not "Cheap" Tax-Supported Rail Transportation?

Even if it could be shown that it is in the public interest to transfer a large part of the cost of transportation from the selling price of commodities to the tax bills of the people, the waterway protagonists would still have failed to demonstrate that it is cheaper to provide tax-supported water transportation than it would be to devote an equal amount of the public's money to providing tax-supported railway transportation and thereby enabling the railways correspondingly to reduce their freight rates.

The citation of the alleged contribution of waterway improvements to the transportation requirements of the present war program is as illogical or dishonest as the waterway proponents' other contentions. The main reliance of the nation for transportation in the present emergency is the railroads, which still handle two-thirds of the country's commerce. There is no conceivable load which may be put on the railroads that they cannot efficiently and economically handle, provided only that the priorities authorities will allocate to them the relatively insignificant tonnages of steel and other materials necessary to build enough new cars and locomotives and keep existing rolling stock and fixed plant at a standard of maintenance and modernity commensurate with heavy traffic. No important additional inland waterway improvements could possibly be made now in time to help carry on the war; and yet, right when it is being proposed that the government shall waste another billion dollars on waterways, this same gov-

ernment is failing to provide enough materials for the building of needed locomotives and freight cars!

The minority members of the rivers and harbors committee made a specific charge against the projects favored by the majority which no conscientious Congressman can lightly disregard. They said:

"We believe that many of the projects in the present bill will result in encroachment upon private enterprise without corresponding benefit to the general public and would certainly result in a reduction of federal income."

Disregarding Congress' Own Investigation and Research Board

If honest and open-minded Congressmen find themselves in doubt, as scarcely seems likely, as to the relative merits of the positions of the majority and minority members of committee, they can easily and properly resolve their misgivings by calling upon the Board of Investigation and Research recently appointed under the Transportation Act. By acting affirmatively on the majority report of the committee, without first obtaining the advice of the Board of Investigation and Research, Congress would stultify itself by robbing this agency of its own recent creation of reason for its existence. All the public-spirited labor that Senator Wheeler, Representative Lea and their colleagues did to perfect and secure the enactment of the Transportation Act of 1940 will have been nullified if the government's past disorderly, wasteful and unfairly discriminatory policy regarding transportation shall be pursued in future on an even more gigantic scale.

There are many who justly criticize the Roosevelt Administration for its encouragement of and subservience to the power and arrogance of the pressure group of organized labor, and for its close affiliation with racial pressure groups and those based on unemployment relief. But the waterways pressure group is just as evil as any of the others; and it is neither the invention nor the exclusive property of the New Deal-

What Goes on With "Mfrs. & Misc."?

One of our analytic readers has taken the trouble to explore further the trends commented upon in this space in our November 29 issue under the heading "Has Competition Leveled Off?" He comments as follows:

"The November 29 issue of *'Railway Age'* makes appropriate comment (page 902) in respect of the misuse of statistics designed to prove the 'leveling off' of competition as it applies to railroad freight, particularly in the Manufactures and Miscellaneous group. Such argument clearly rests either on misrepresentation or ignorance of what the data represent and the factors that have influenced them.

"Careful examination of the 'Manufactures and Miscellaneous' freight statistics, as published by the Interstate Commerce Commission for all Class I Railways, reveals that in 1940 approximately 80 per cent of freight revenue from this group was derived from iron and steel products, scrap iron, lead, zinc, aluminum, machinery, motor trucks, sulphuric acid, alcohol, explosives, cotton goods, and other commodities closely geared to the lease-lend and national defense programs. Conversely, only about 20 per cent of the total represents sugar, agricultural implements, passenger automobiles, furniture, canned goods, paper and products, soap, and other items not clearly identifiable as belonging in the former group, although a considerable part thereof may well have been expanded for the same reasons. And, because of the urgency of the demand for most of the freight growing out of the emergencies cited, it often seeks movement by rail in mass quantities direct from factory to destination.

"A second important factor leading to distortion in analysis of the trend of Manufactures and Miscellaneous, apparently not appreciated even by the I. C. C., is the fact that due to the nation-wide operations of the forwarder companies more and more consolidated l.c.l. freight has been thrown into the Manufactures and Miscellaneous group and subtracted from the l.c.l. group. In the circumstances correct analysis requires that the two groups be combined if the effort is to show the true trend of Manufactures and Miscellaneous freight over a period of years. The attached compilation shows that taken by itself the Manufactures and Miscellaneous revenue decreased only 10.4 per cent during the last decade, but combined with l.c.l. revenue the decrease is 19.4 per cent."

When it is considered that the 1928-30 base employed in the tables has not been adjusted to allow for the great increase in production since that time, it becomes even more apparent that some of the comfortable current analyses are not very realistic.

Trend of "Manufactures and Miscellaneous" and L. c. l.

Source: Interstate Commerce Commission "Freight Commodity Statistics," Statement No. 41100

Tons Originated (Millions)	Mfrs. & Misc.		All L.c.l.		Mfrs. & Misc. plus L.c.l.	
3-Year Av'g. 1928-1930	306.6	100.0%	34.2	100.0%	340.8	100.0%
1930	277.8	90.6	29.7	86.7	307.4	90.1
1931	207.4	67.6	22.8	66.5	230.1	67:5
1932	143.7	46.9	15.2	44.5	158.9	46.6
1933	157.0	51.2	14.4	41.9	171.4	50.2
1934	179.3	58.5	14.3	41.9	193.6	56.9
1935	196.5	64.1	14.0	41.0	210.5	61.9
1936	245.0	79.9	16.3	47.6	261.3	76.6
1937	265.3	86.5	17.2	50.2	282.5	82.7
1938	194.5	63.4	14.4	42.1	208.9	61.3
1939	233.1	76.0	14.9	43.5	248.0	72.8
1940	262.0*	85.5	14.7	42.9	276.7	81.3
Freight Revenue (Millions)						
3-Year Av'g. 1928-1930	$1,602.4	100.0%	$485.5	100.0%	$2,087.9	100.0%
1930	1,421.3	88.7	429.4	88.4	1,850.6	88.7
1931	1,083.5	67.6	340.1	70.1	1,423.6	68.2
1932	769.1	48.0	252.8	52.1	1,021.9	48.9
1933	820.5	51.2	228.8	47.1	1,049.3	50.2
1934	922.6	57.6	223.8	46.1	1,146.4	54.9
1935	1,065.0	66.5	225.7	46.5	1,290.7	61.8
1936	1,309.0	81.7	256.4	52.8	1,565.3	75.0
1937	1,367.7	85.4	262.5	54.1	1,630.1	78.1
1938	1,076.5	67.2	240.5	49.5	1,317.0	63.1
1939	1,288.7	80.4	252.3	52.0	1,541.0	73.8
1940	1,435.5*	89.6	247.6	51.0	1,683.1	80.6

* Included in Manufactures and Miscellaneous in the year 1940 are 2,749,048 tons of Forwarder Traffic originated and $46,223,959 freight revenue from such Forwarder Traffic handled. Inasmuch as this class of traffic, being l.c.l. tonnage in consolidated form, merely represents a transfer from the l.c.l. group to the Manufactures and Miscellaneous group during the above period, proper comparison of trends of the two groups requires that they be combined, as is done in the final column shown.

Another reader whose knowledge and analytical ability is widely recognized writes to say:

"You are perfectly sound in your 'box' of November 29. I like particularly the statement that 'Wishes, hunches and happy conviction based upon nothing more substantial than faith . . . seem scarcely suitable devices for forward planning of a realistic kind'."

ers. The New Deal did not originate this disintegrating force; it merely enlarged upon its inheritance. Respect for the righteous indignation of "conservative" politicians and business organizations against the behavior of the leaders of organized labor would be considerably enhanced if these politicians and business organizations would purge their own ranks of pressure interests whose support of inland waterway projects is as selfish, as inimical to the public welfare and as indefensible as any of the activities of any labor leaders.

The Problem of Supervision

The enlarging and broadening of railroad operations in the past few years has tended to focus attention upon the problem of supervision. Not a few progressive industrial organizations have long recognized the necessity for giving special training to their foremen and supervisors in the art of dealing successfully with the workers under their control. Special provision for such training has been made in some instances in the budget of the department of personnel administration. It is not unusual in some industrial communities to find men from the various manufacturing organizations and railroaders, as well, banding together in clubs or study groups to familiarize themselves with the principles and practices underlying efficient supervision.

Any tool or machine, to give its best performance, must be maintained in prime condition. It is remarkable what can be accomplished by touching up and resharpening the cutting tools at proper intervals. It is just as important, or even far more important, for the foreman or supervisor to keep up to date and on his toes in dealing with the administration of his department. But the process of selection and training for supervision must be started well down in the ranks. This was brought home with emphasis by F. K. Mitchell, assistant general superintendent of motive power and rolling stock of the New York Central, in discussing the report of the Committee on Apprenticeship at the recent meeting of the Locomotive Maintenance Officers' Association.

Said Mr. Mitchell, "When the question is discussed as to who is available for a position when a man resigns or dies, or is no longer satisfactory, I can think of no worse condemnation to an organization than to have the answer come back, 'Well, I don't know whom we can put on that job'." And later in the discussion he added, "I don't believe that there is anybody high up in the management of any railroad who would like to be accused of having a supervisory organization founded upon sand; and that is what it is if you don't have the boys coming along from the bottom up, amongst whom you can find the proper candidates to fill every job—there should be more than one candidate for every job."

It was quite definitely suggested that the association should follow up this question of "building up of the supervisory organization"; it is equally important that this problem be given critical consideration by every department of every railroad.

Funds for National Defense

The railroads, as was to be expected, were quick to respond to the government's request for assistance in promoting the sale of defense bonds and stamps. The board of directors of the Association of American Railroads took action as early as last May in recommending to the member roads that they participate in this activity. Not only that, but specific suggestions were made as to how this could best be done. The Association led the way also by installing for its own employees a volunteer systematic savings plan for the purchase of defense savings bonds.

The treacherous attack upon our nation and its entry into the war will make necessary a vast increase in expenditures for defense and war purposes. This, in turn, requires a speeding up in the sale of defense bonds and stamps, which, while bringing aid to the government, also insures a sound investment to the purchasers. Each railroad should review what it has done thus far, to determine just how effective its efforts have been, and upon this as a basis, take steps to extend and speed up sales of bonds throughout its entire organization.

What have the railroads done thus far? In the first place, like other businesses and industries, they are cooperating by acting as agents for employees who request them to allot a specified amount from their wages for the time payment of defense savings bonds. Very complete plans have been developed and used successfully toward this end. With the new demands that are being made upon the nation, however, efforts should be made to induce a larger and more general participation in this plan. This, in fact, seems to be the way in which the railroads can render the largest service at this critical time.

It has been the practice, also, to sell defense stamps at ticket windows in railroad stations. Is there not a possibility that more effective means can be found in some places of drawing attention to the fact that these stamps are on sale, and thus increasing the sales? The railroads have done much to publicize the sale of defense stamps and bonds by the display of posters and cards in railroad stations, on trains, in offices, in the shops and roundhouses and other places. Have these posters and cards become worn and unattractive, or have they been lost entirely? Might it not be well to make a check-up to determine whether to replace or add to them?

Is there not a need on any railroad, and particularly on the larger ones, for definitely organizing to insure a strong follow through on the promotion of the sale of both the defense bonds and the defense stamps?

The Economics of the New Empire State Express

Considerations which led the New York Central to re-equip the trains completely with cars of distinctive design inside and out

By Carleton W. Meyer,

Assistant to President, New York Central System

THE technique of determining whether a given capital expenditure is economically justifiable has been pretty well worked out in many phases of railroading. With such things as improvements in roadway, signals, motive power, freight cars, etc., reasonably certain predictions of operating economies can be made and these, along with other relevant facts, go a long way toward putting the process on a scientific footing. When it comes to capital expenditures for new passenger cars, however, operating expense considerations are often secondary because, with serviceable cars already on hand, the purchase of new ones does not offer any significant economy. The big question is, will the new cars attract sufficient new business to justify their cost? Upon the answer to this question really hinges the determination of whether the improvement should be made or not.

Modern passenger equipment is expensive; the cost (exclusive of motive power) of the thirty or so cars necessary for daily service in both directions on a long and heavy run exceeds $2,000,000. Those intrusted with the management of security holders' property are not justified in making such expenditures just because everybody likes new trains; there must be a reasonable probability that the net income of the railroad will be increased. It follows that, however imperfect the process of weighing this probability may be, any step toward a more systematic approach will be a step forward.

An attempt to assemble the facts bearing upon this point was made when the purchase of new cars for the Empire State Express was under consideration. This article is a summary of what was done; the sole justification for this presentation is that thought and discussion by others may suggest much needed improvements in methods which are now very imperfect.

Estimating the Cost

The first step was to determine the probable annual costs consequent upon the purchase of new equipment for the Empire. Consideration was limited to ownership costs. No attempt was made to compare new equipment with existing equipment as to operating or maintenance costs, which would probably be in favor of new equipment. The question of what to do with the equipment that would be displaced was not troublesome, because the good air-conditioned coaches and parlor cars of standard type heretofore used on the Empire were needed to improve service on less prominent trains. The Empire has long been a big train; beginning at the head end, a reasonable estimate of the consist of each of the two trains is: mail car, combination baggage and tavern-lounge car (the latter for parlor-car passengers), two or three parlor cars, diner, two to four coaches, another diner, two to four more coaches, and observation-lounge car. This arrangement is a departure from the former practice of putting coaches ahead and parlor cars at the rear. Considering that 85 per cent of the Empire's passenger revenue is from coach passengers, it was thought that coach passengers should be given the use of the observation car—a decided attraction on the daylight run through the Hudson and Mohawk Valleys. Thirty-two units were determined upon as desirable to provide two maximum length trains for periods of heavy travel and sufficient spare coaches (which might be available at times for use on other trains) so that service would not be impaired when cars required shopping.

Several equipment possibilities for the new train were considered, with rather substantial variations in cost between them; one possibility was to use some of the 95 new de luxe coaches previously ordered,[1] purchase new parlor, observation, and dining cars, and obtain mail, baggage and tavern-lounge cars by rebuilding existing equipment. The Empire, however, is the outstanding train of New York State and has a tradition which deserves the best in equipment. Furthermore, because of the prestige and advertising value of the train, there is every reason to believe that the additional expense for all-new equipment of the highest type would be repaid by new patronage. Therefore, it was decided to purchase all new cars, of design that would recognize the high place which the Empire occupies in the Central's fleet.

It would appear that annual ownership costs should include the cost of interest on the equipment trust certificates issued for financing, plus the repayment of principal over ten years as required by the certificates. Although the life of passenger equipment is much longer than this, any expenditure of this kind that cannot pay for itself in ten years appears open to serious question. Depreciation will, of course, be charged on the books to accumulate a fund for eventual replacement; but this charge should not be added for the present purpose, because amortization has already been included. For the necessary 32 cars, and for the streamlining of two existing locomotives for the new train, annual ownership costs, determined as outlined, are $247,550.

We now come to the crucial question: Will the acquisition of this new equipment enable the railroad to develop enough new business to equal or exceed the annual ownership cost?

The Empire has been a consistent high earner; past patronage fully warrants the expectation that the train's

[1] The order for these cars was divided among the American Car & Foundry Company, the Pressed Steel Car Company, and the Pullman-Standard Car Manufacturing Company. Those built by the latter company were described in the November 1, 1941, *Railway Age*, page 697.

earnings could be increased. During October, 1940, the westbound train (No. 51) earned $3.93 per train-mile from passengers alone, not including head-end or dining-car revenue. The eastbound train (No. 50) earned $3.46 from passengers. The westbound train carrying through Empire cars from Buffalo to Cleveland (No. 83) averaged $1.95 per train-mile; the corresponding eastbound train (No. 60) earned only 42 cents from passengers, but most of the eastbound Cleveland day business was on an earlier train, No. 90, which is a substantial earner. The westbound train carrying Detroit cars (M. C. No. 51) earned $1.64 per train-mile during October, 1940; there was no eastbound Detroit connection during that month.[2] During October, 1939, the Empire east of Buffalo averaged $5.76 per train-mile westbound and $4.19 eastbound. Mail and express between New York and Buffalo on the Empire earns about 37 cents per train-mile. The running of additional sections, of which there were sixteen during October, 1940, of course makes these train-mile earnings less satisfactory than they otherwise might have been; not the least of the advantages of the new train is the provision of additional capacity in one section.

Considering the train's excellent past earning record, the extremely high carrying capacity and, therefore, the high potential earning capacity of the new equipment offer decided advantages. The frequent daily consist of fourteen cars would provide 105 parlor car seats (35 each in 3 parlor cars); and 336 salable seats for coach passengers (56 each in 6 cars) which could be increased on occasion, with the maximum sixteen-car train carrying eight coaches, to 448 coach seats. Estimating parlor-car revenue at 2.5 cents per passenger-mile for transportation (this being somewhat below the present average on the system) and .5 cent for seat charge (the parlor cars to be railroad-operated) total 3 cents, gives potential earnings of $3.15 per train-mile from parlor car passengers. For coach passengers, using 1.8 cents per passenger mile (which is very nearly the New York Central average and would probably be exceeded on the Empire because of shorter hauls), the potential earning capacity (on the basis of 336 salable seats in six cars) would be $6.05 per train-mile; a total of $9.20 for parlor car and coach passengers. With all eight coaches in service the maximum earning power becomes $11.22 for passengers alone; a figure which may be closely approached in periods of heavy travel.

Small Increase Will Pay for New Cars

Further favoring the project is the high daily mileage of the train. The Empire is usually thought of as a New York-Buffalo train and that was its original run. But at present speeds Detroit and Cleveland are well within the limits of a day run; and the possibilities of obtaining new business through the extension of all-year Empire service to these cities seemed most attractive. The distance from New York to Cleveland is 621 miles and from New York to Detroit is 688 miles. The average of these, 654 miles, was taken as representing the daily mileage of the new equipment. The two trains, one daily in each direction, would make 477,621 miles annually. On this basis the added revenue necessary to carry the additional ownership costs of $247,550 annually would be 51.8 cents per train mile. In other words, about 29 new coach passengers or 17 new parlor car passengers traveling the length of the train's run in each direction daily would meet all ownership costs.

From this point, the probability that the new train will attract far more than the minimum number of new passengers—real new passengers, not passengers that may be diverted from existing trains—necessary to make it a profitable investment cannot be demonstrated mathematically, but the available facts nevertheless make that probability overwhelming. Modern streamlined trains have been generally successful on other railroads[3] as well as on the New York Central with the Twentieth Century Limited and the Mercury.[4] The heavy concentration of population in the Empire's territory is decidedly in its favor. Of the 13,379,000 people in New York State, about 90 per cent live in the Hudson and Mohawk Valleys—along the main line of the New York Central and the route of the Empire. Of the State's population, 83 per cent are urban. Every city in New York of 100,000 or over—New York, Yonkers, Albany, Utica, Syracuse, Rochester, and Buffalo (and Schenectady, close to 100,000)—is served by this train.

Factors Favorable to Success of the Project

In the fifty years that the Empire has been in operation it has become the outstanding train of New York State and this, of course, greatly enhances it value as an attraction for new business. Perhaps more than any other single thing, the Empire is the symbol of the New York Central in the state. Unquestionably, the Empire carries more state officials and members of the state legislature than any other train; it is frequently remarked that the time of its arrival and departure in Albany fixes the beginning and ending of the day's business in legislative and other public meetings. Photographs of governors of New York standing on the rear platform of this train have appeared in considerable numbers in newspapers and magazines for a good many years. Memories of engine 999 and the 112.5 miles-per-hour speed record it made while pulling the Empire are a reminder of an illustrious past and of a tradition which, when carried on by a splendid new train, can help to dramatize today's railroad service. The new Empire is a spectacular demonstration to the whole State of New York and its public officers that the New York Central is abreast of the times and is taking advantage of the opportunities for the development of its passenger traffic.

The possibilities of the new train in the development of day-coach travel between Cleveland and Detroit and the great New York cities along its route are extremely promising. The population (1940 census) of Detroit is 1,623,452; of Cleveland, 878,385, and of Erie, Pa., where the train will also stop, 116,427. The Detroit and Cleveland population figures are substantially swelled when contiguous suburban municipalities, equally promising sources of potential traffic, are included; the population of Cuyahoga County, Ohio, which roughly comprises the Cleveland metropolitan area, is 1,217,250 and of the Detroit metropolitan area (Wayne County plus Pontiac and Mt. Clemens) about 2,100,000. There are about ten million people in the New York-Northern New Jersey metropolitan area. The new train will provide, for the first time, all-year day service of the highest type in both directions between New York and the great Detroit and Cleveland population centers. For this business the Empire can hardly be considered as competitive

(*Continued on page 1039*)

[2] Previous practice in recent years has been to run through cars from the Empire westbound to Cleveland and Detroit all year; but eastbound through cars were run only during certain months of 1939 and 1940, primarily the summertime.

[3] See the October 14, 1939, and the November 16, 1940, Passenger Progress Numbers of the *Railway Age*.

[4] As to the business developed by the Mercury, in operation between Cleveland-Detroit-Chicago, see pages 739 and 772 of the November 16, 1940, *Railway Age*.

Stainless Steel Cars for the Empire State Express

New York Central installs two Budd-built trains — Hauled by streamline 4-6-4 type locomotives

MARKING a service of 50 years the New York Central has completely re-equipped its Empire State Express which operates between New York, and Buffalo, N. Y., Cleveland, Ohio, and Detroit, Mich. Thirty-two cars built of stainless steel by the Shotweld system have been delivered by the Edward G. Budd Manufacturing Company and were placed in regular service on Sunday, December 7. Two 4-6-4 type passenger locomotives of the J3 class were especially streamlined in the railroad's own shops in a style conforming with the distinctive exterior appearance of the cars, to handle the trains between Harmon, N. Y., and Cleveland.*

The maximum consist of each of the two trains is a streamline steam locomotive and 16 cars. The first is a mail-baggage car. Next is a combination baggage-tavern-lounge car for the service of the passengers in the three 35-passenger parlor cars which follow. Behind the parlor cars is a diner; four 56-passenger coaches; a second diner; four more coaches, and a tavern-lounge-observation car for coach passengers. Each train has accommodations for 567 passengers in assigned seats. Each dining car seats 44; the tavern-lounge, 47, of which the 14 lounge seats are assigned, and the tavern-lounge-observation car, 51, making a total of 174 recreation and dining-room seats.

All of the cars, except three coaches in each train which are numbered, are named for governors of the State of New York. The name of the train appears on the letterboards of the mail-baggage, the baggage-tavern-lounge car, the two diners, and the tavern-lounge-observation car. Coach and parlor cars bear the name of the railroad.

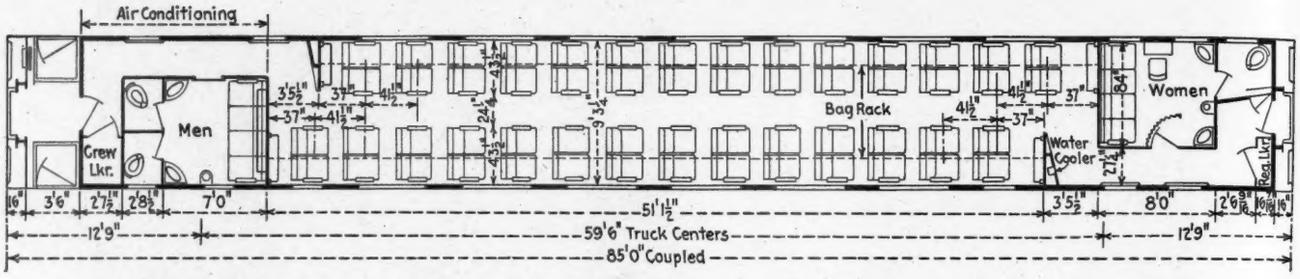
A striking feature of the interior decorations of the trains are murals, done in oil, on the walls at the ends of the passenger compartments in the coaches and on the walls at the front ends of the tavern-lounge-observation cars. In all, there are 36 of these paintings, each a separate subject, which, with a few exceptions, portray scenic and historic highlights of New York City and the Hudson and Mohawk Valleys of New York state. They are the work of three artists—Miriam Tindall Smith, Mary Louise Lawser, and Leslie Ragan.

The coach seats are equipped with individually adjustable soft-rubber-covered foot rests. All seats have adjustable reclining backs of spring and hair construction; the cushions are sponge rubber. At each end of the car a partition of seat width opposite the side corridor adds privacy to the end seat and protects the occupants from drafts. These partitions are solid except that above the belt rail there is a narrow panel of transparent Herculite glass next to the aisle extending from belt-rail height to the ceiling. Each end seat is provided with an adjustable foot rest attached to the adjoining partition.

Each of these cars has spacious men's and women's lounges. The men's lounge is 7 ft. long and the women's 8 ft. Each is fitted with an upholstered sofa which will seat four persons. A folding shelf is set in the wall in back of the sofa in the men's lounge and mirrors have been placed above the lavatories, over the backs of the

* For a description of the J3 class locomotive see the *Railway Age* for April 2, 1938, page 596.

Eight of The Coaches Are Numbered—The Others Are Named



The Coach—The Water-Cooler Unit Is Over the Ceiling Above the Women's Lounge with the Faucet in the Partition

The Men's Lounge in One of the Coaches

sofas, and in the toilet doors. In the women's lounge there is also a small dressing table, with mirror and chair. The men's room has dual toilets.

Each parlor car has 30 deeply cushioned, movable chairs which may be rearranged to suit the passengers' comfort. Removable tables are available. In the rear section of the car is a drawing room with seats for five, and an adjoining toilet and wardrobe with luggage storage space above.

In the baggage-tavern-lounge car at the front end of the train is a 20-ft. baggage section which is separated from the bar section by a small but completely appointed buffet. The bar section of the car has cocktail wall seats for five on the bar side and four on the passage side. Adjoining this is a tavern section with seating space for 24, there being two card-playing tables on each side separated by longitudinal wall seats and tables for four. To the rear of the tavern is the lounge with seating space for 14 in loose chairs.

The rear car of the train is the tavern-lounge-observation car. At the forward end of the car is a card section with one table for four on each side. Adjoining this is the tavern section with longitudinal wall seats for 10 on the forward right side, and wall seats for four flanking two card-playing booths on the left side. A semi-circular bar divides the tavern from the main lounge section. In the latter and in the solarium—the oval observation end—are 21 deeply cushioned chairs. Eight of these are fixed and the rest are movable. The radio in the lounge can be controlled by the passengers.

Decorations Vary Widely in Color

The decorative features of the car interiors were arranged by Paul Cret. Four color schemes have been used in the 16 coaches. One blends warm limestone on the center and side ceilings with eggplant-tinted gray on the side walls, the upper side partitions opposite the corridors and the outside portion of the upper main end walls. Above the belt rail a wide panel of Bubinga wood

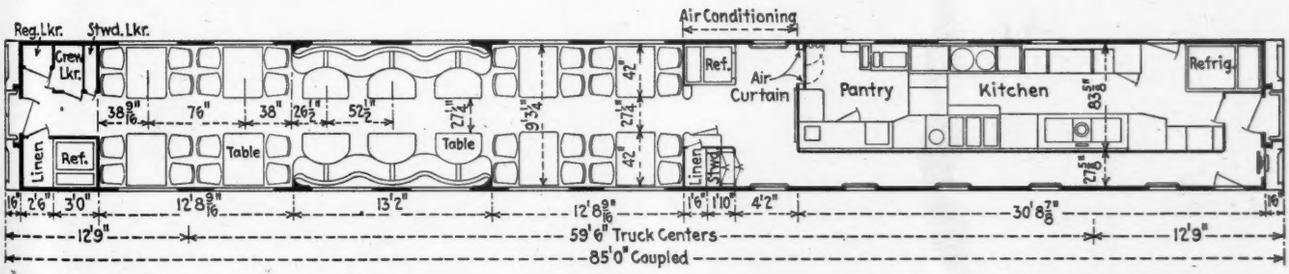
One of the Empire State Express Coaches

The Dining Car—Against the Kitchen Partition in the Cars in Which the Tan and Mulberry Tones Predominate Is a Glass Mosaic of Gun Metal Ground and Mirror Pattern—In the Cars in Which the Green Tones Predominate, the Mosaic Has an Aluminum Ground with Mirror Pattern

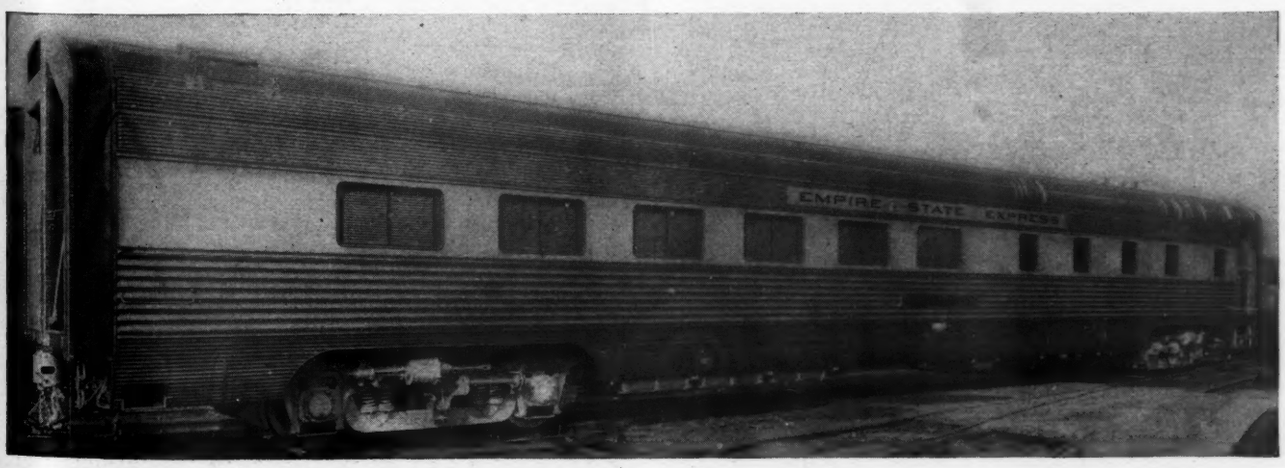
veneer covers the inside portion of each main end partition. This panel, centered on the aisle, forms the background for a mural painting. The floor is covered with a brown jaspe linoleum with inset blocks and stripes of Marbelle. The upholstery fabric is mulberry.

A second color scheme utilizes steel gray for the walls, with oyster white in the center ceiling and medium sand at the sides. The floor is brown jaspe linoleum patterned with hunter green jaspe, and the upholstery is hunter green. In these cars the murals are mounted on panels of English oak veneer with white-lead finish.

In another scheme the walls are gray gold opalescent,

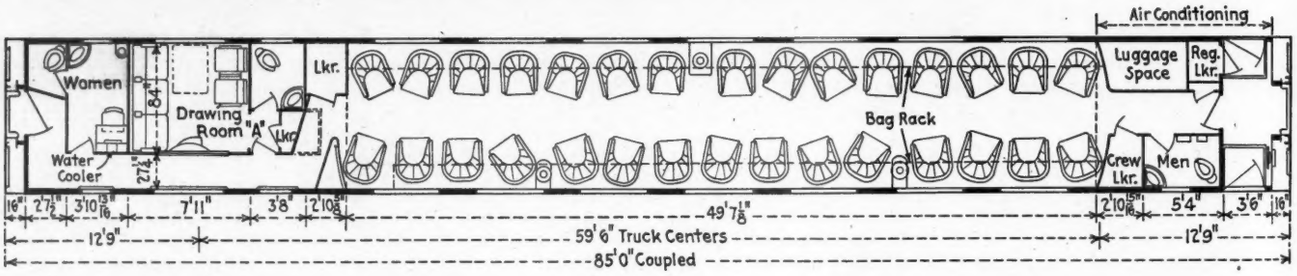


The Dining Car



One of the Diners—These Cars, as Well as the Mail-Baggage and the Baggage-Tavern-Lounge Cars, Bear the Name of the Train on the Letterboards

In One of the Parlor Cars



The Parlor Car

and the ceilings light apricot in the center with light taupe at the sides. The end-wall panels are Sapelli wood veneer. The upholstery is brown and the linoleum sienna Marbelle with Marbelle stripes and blocks.

The fourth scheme is dominantly blue. The side walls are delft blue and the upholstery blue. Contrast is added by lemon cream in the center ceiling and eggshell ivory at the sides. The linoleum is autumn brown jaspe inset with slate gray Marbelle. The end panels are Austrian oak veneer.

All of the men's lounges are done in peach beige and brown with red brown leather upholstery. In the women's lounges the colors are gray gold opalescent, with light taupe and brown upholstery, except that in the cars in which these colors are used in the main passenger compartment, gray eggplant, warm, limestone are used, with mulberry upholstery.

In all of the cars the moldings are flat bands of stainless steel; the window sills are black plastic, and the Pantasote window shades have a silver finish outside and tan cloth inside.

Of the three color schemes for the parlor cars tan predominates in two. In the first the fustian tan ceiling and the plain quartered walnut veneer side and end walls are matched by the carpet of mulberry and brown. The upholstery runs to three shades: Dark brown, medium brown and dark tan. The fixed wall tables have fronts and sides of East Indian Rosewood veneer and a top of Formica in arnica red. The removable tables are of blisterproof Formica, being the same black hue in all three schemes. The drawing room is in fustian tan and Sagamore drab with tan carpet and upholstery of dark brown. The men's toilet has fustian tan ceiling and walls with Marbelle sienna linoleum. The women's lounge is fustian tan ceiling and upper wall, with a Sagamore drab lower wall and Marbelle sienna linoleum. The upholstery is tan.

The second scheme retains the brown and tan tints, with a peach beige ceiling, English quartered oak veneer walls, and upholstery in which tones of deeper brown predominate. The brown and tan design carpet is distinctly lighter in tone than the walls and upholstery. The drawing room has peach beige and soft brown with amberglow upholstery. The men's toilet is a soft brown throughout and the women's lounge a peach beige. The fixed wall tables in the main parlor have a crotch mahogany veneer on fronts and sides with a Formica flesh tan top.

The third scheme turns from the tan and brown to a blue effect, featured through southern moss ceiling and zebrawood veneer side and end walls. The blue continues with Imperial Jacquard blue-green and needle-

point blue in the upholstery and is set off with a green, black, and tan design in the carpet. The fixed wall tables have fronts and sides of Macassar ebony veneer and a top of Formica shaded in delft blue. The drawing room retains the southern moss on the ceiling which blends into dark powder blue lower walls and a carpet of green with needlepoint blue upholstery. The men's toilet is in dark powder blue with jaspe taupe linoleum. The women's lounge is southern moss on the upper portions, powder blue on the lower walls, jaspe taupe linoleum, and upholstery of blockade design in marine blue.

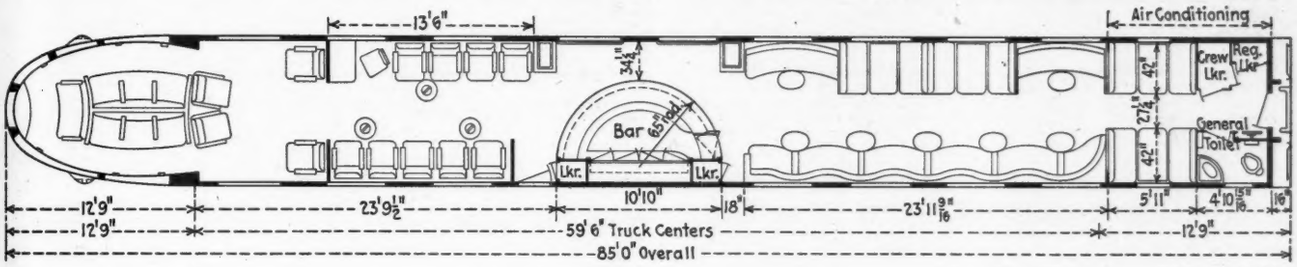
A strong factor in the overall effect produced by color in these cars is the relief of the center ceiling with octagonal fields about the Aerofuse fixtures. On the fustian-tan ceilings the fields are a Manilla tan enclosed by 2-in. bands of arnica red; on the peach beige ceiling the fields are tawny orange enclosed in soft brown; the southern moss ceiling is relieved with bright (Suntone) yellow enclosed in light blue. Drapes are beige with horizontal clarendon stripes in the predominately brown color schemes. In the blue cars they are patterned in tan and yellow.

The dining room of each dining car is divided into two end sections and a center section. Each end section has four tables set for four persons each; the center section has wall seats on both sides, each side seating six at three service tables facing the aisle. A distinct feeling of three separate rooms has been effected without the use of even low partitions. This is partly the result of different ceiling heights and different widths of the car above the windows in the end sections and in the center section, and partly the result of differences in decorative treatment.

In the first of two decorative schemes for the dining cars, the ceiling center of the end sections is pink tan, while the side ceilings and walls are Sapelli wood veneer. The metal-frame chairs are cardinal mulberry; rubber table tops are of orchid with bands of dark oak. The central dining space has walls and ceiling of padded pigskin, longitudinal wall seats in tan and mulberry, and table tops of orchid. Drapes in old rose and tan are placed at the windows in this section. The Venetian blinds at all windows are light mustard tan color with mulberry straps. The carpet sets a strong base with black, tan, and brown.

In the second scheme the center ceiling of the end sections is ecru shading to light oak veneer on the side ceilings and walls. The chairs are ceramic green, as are the table tops. The central dining space has walls and ceiling of dark hunter green padded leather; the wall seats are of Imperial Jacquard chamois, and the table tops conform in pea green. The carpet is shaded in various tones of green.

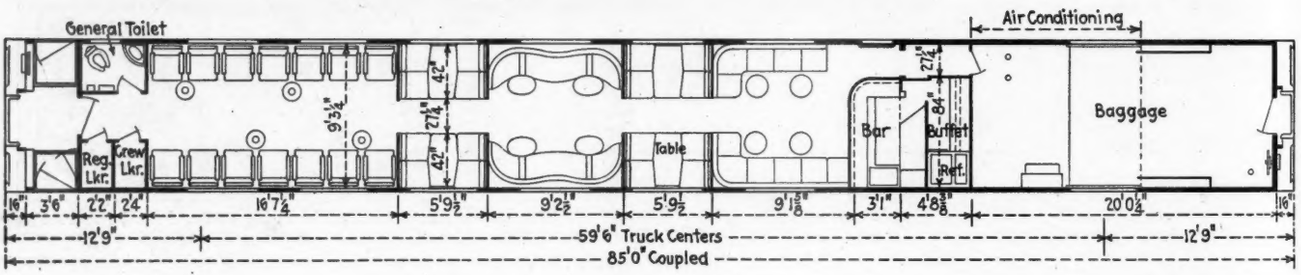
On the side walls above the windows in the two end sections of the dining cars are applique ornaments in



The Tavern-Lounge-Observation Car

Looking Toward the Front End of the Tavern-Lounge-Observation Car — A Speedometer Is Mounted on the Wall Above the Corridor at the Front End of the Tavern

In the Tavern Section of the Baggage-Tavern-Lounge Car



The Baggage-Tavern-Lounge Car

bright metal relief. These are the work of Mary Louise Lawser and are symbolic of the products of agriculture in New York state.

The color decorations of the tavern-lounge-observation cars are in pastelle shades in two schemes. The first descends from light mulberry in the ceiling to a mulberry pattern carpet with grays predominating on the side walls. The longitudinal wall benches in the tavern section are of leather in red madder color; the chairs are divided between woodtone, tan and brown; the fixed seats in the tavern section are upholstered in light chocolate leather and the settee in the observation end has a butt walnut frame covered with sere brown fabric.

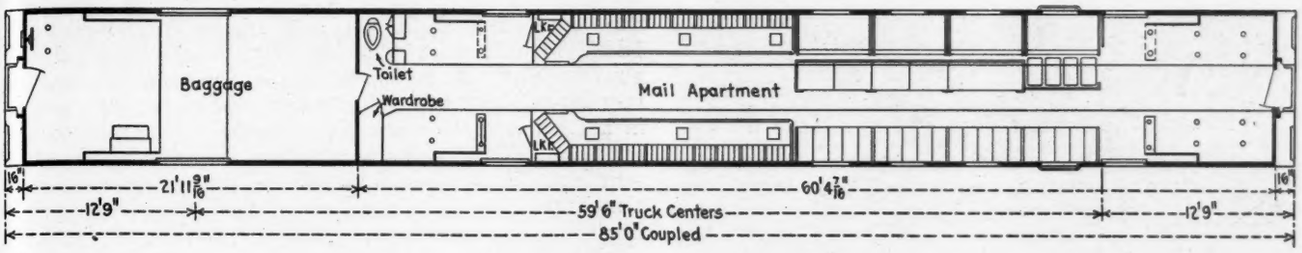
The second color scheme is in soft shades of blue contrasting with black, blue and yellow in the rugs and buff and dark blue seats. Here and there in the observation and tavern sections brown and yellow tints set off the solid colors.

In the tavern-lounge at the head of one of the trains the colors are warm gray gold opalescent on the center ceiling, copper lustre opalescent on the upper walls, descending to seal brown on the lower walls and a dark mulberry and brown carpet. In the lounge the Chase Minot upholstery is divided between rust and green, while in the tavern section the leather card-playing seats are of luggage tan and the leather wall seats of dark hunter green. The bar section has dark olive green ceilings and walls. The dark mulberry and brown carpet of the lounge and tavern carries through the entire car. The bar is decoratively featured in a leather front of Spanish tile with stripes of ocean sand and olive drab and in a top of chocolate brown linoleum.

The second scheme runs to the same general pattern with center ceiling of desert sand and zephyr taupe on the upper walls descending to gray chocolate on the lower walls, and a carpet of black and green. The upholsteries in the lounge seats are blue green and *green,* while the leather card-playing seats in the tavern are medium brown and the longitudinal wall seats acquamarine. The bar section carries the gray chocolate ceilings and walls, while the bar itself has a medium brown front and brown jaspe linoleum top.

The car structures are fabricated of stainless steel by the Shotweld process. The bodies are of the characteristic truss side construction developed by this builder. The stainless-steel center sill has a cross-sectional area of 18 sq. in.

Additional roof stiffness has been provided in these cars by the use of flanged-channel stiffener members welded to the tops of the carlines and extending from end to end of the car in line with the collision end posts. The corrugated roof sheets are welded to the flanges of these members. Another change in the roof made primarily to improve the exterior appearance of the trains



The Baggage-Mail Car

is the use of flush ventilators in all of the passenger-carrying cars replacing the dome type which have been generally used by this builder. The latter are used only in the mail and baggage car.

The windows, furnished by the Hunter Sash Company, are double glazed to reduce heat transfer, and dehydrated to prevent fogging. The outside pane is polished plate and the inside pane is laminated shatterproof and glare resistant. The windows of the lounge cars and diners are equipped with Venetian blinds.

Weights of the New Empire State Express Equipment

Type of car	With disc brake, lb.	With clasp brake, lb.
Mail-baggage	110,560	109,550
Baggage-tavern-lounge	115,990	115,570
Parlor	113,100	112,240
Dining	125,060	124,200
Coach	115,110	114,140
Tavern-lounge-observation	113,770	112,500

All cars are insulated with Fibreglass throughout. The interiors of the walls, ceilings, and partitions are covered with Robertson bonded metal.

The cars are fitted with Waughmat twin-cushion draft gears and A. A. R. tight-lock couplers. No separate buffing gear is employed.

Train power for air conditioning and lighting is supplied by a 20-kw., 80-volt Safety genemotor on each car, except the mail-baggage cars. These machines are body hung and driven through the axle by a Spicer drive. A Safety clutch automatically disconnects the sets from the axle when the cars are standing, permitting their operation from 220-volt, three-phase standby power. The motors of the sets are rated at 15 hp. and the generators will deliver 10 kw. when driven by the motors. Each car, except the mail-baggage car, is also equipped with a 600-amp. hr., 32-cell, lead-acid battery. The mail-baggage car has a 5-kw. 40-volt Safety genemotor with 7½-hp., 220-volt a. c. motor for standby power. The batteries are 600-amp. hr., 16-cell, 32 volts.

All passenger-carrying cars, with the exception of the diner, are equipped with Frigidaire 7½-ton electro-mechanical air-conditioning systems. The unit on the diner is rated 5½ tons. Modulated control, which provides for continuous refrigeration and dehumidification,

The Vapor Single-Coil Solenoid Valve which Controls the Steam Heat Under the Influence of a Thermostat in the Main Compartment of the Coaches—Four of These Valves Are Controlled by a Single Floor Heat Thermostat and One by the Overhead Heat Thermostat

The Side-Frame Structure

is effected with the aid of a split evaporator. A 55-per cent section of the evaporator coil is controlled by a differential thermostat. The 45-per cent section operates continuously, except at very light loads when it is cut out by a low-limit thermostat.

Conditioned air is distributed by means of center ducts and Aerofuse outlets located at intervals along the ceilings of the cars. All cars having men's and women's lounges at both ends are equipped with Sturtevant exhaust fans in the toilets. Air is exhausted from the rear of the observation car through a combination Aerofuse outlet. This fixture delivers conditioned air from the outer circular openings and exhausts air from the center opening.

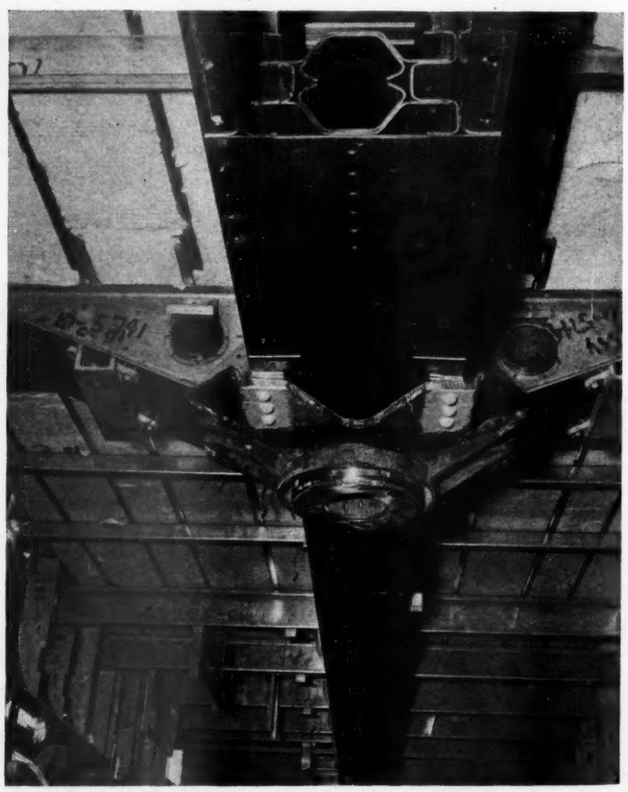
Special ventilation features are included in the diner. A high velocity air curtain in the passageway between the foyer and pantry prevents kitchen odors from getting into the dining section. A 500 cu. ft. per min. blower supplies filtered fresh air for the curtain. This air is heated in winter. Filtered air, which is heated in winter, is also brought into the kitchen by a 1,000 cu. ft. per min. blower over the end kitchen door. One exhaust fan in the pantry and two above the ranges take out a total of about 1,500 cu. ft. per min. The amount brought in and taken out is approximately the same, but a small amount of air is moved from the dining section to the kitchen by having the air curtain slots inclined toward the pantry. The diner is also equipped with a mechanically refrigerated ice-cream container and an electric dishwasher. Other refrigerators are cooled by ice.

The Vapor Zone system of steam heat includes floor heat from fin tubing at the usual location along the base of the side wall and overhead radiator units set in the air-supply ducts. The control includes both floor and overhead thermostats.

With the exception of lights in passageways, vestibules, diner-kitchen and the baggage and mail cars, the entire train is fluorescent lighted. All fluorescent lamps are 15-in., 14-watt units operating directly on 64 volts d. c. power. The voltage is regulated by carbon-pile lamp regulators. In the coaches there is one fluorescent lamp in a Luminator bag-rack fixture mounted laterally over each seat. These units are fitted with individual toggle switches. In the center aisle there are six air-distribution outlets, in the center of which is a lighting unit. Each of these units is equipped with one 25-watt white incandescent lamp and one 10-watt blue night lamp. The men's and women's lounges are equipped with 30-watt Lumiline mirror lamps and one 40-watt incandescent ceiling lamp each. Twenty-five-watt incandescent units are used in the toilets, passageways, and vestibules.

The lighting arrangement in the parlor cars is essentially the same as that in the coaches.

Each end section of the diner is lighted by continuous rows of fluorescent fixtures over the windows, from which the light is projected downward only. These units are augmented by one six-lamp fixture in the center of the ceiling. The center section of the diner is lighted by three two-lamp fixtures mounted on the ceiling near the sides of the car. All lights in the kitchen, pantry, passageways, and vestibules are incandescent.



An Underframe Showing The Cross-section of the Center Sill

In the observation and tavern cars light boxes are used at the sides over the windows. These are fitted with glass lighting distributing panels at the bottom and with opal glass at the top. Overhead fluorescent units are used in the end sections.

The trucks are the General Steel Castings four-wheel single drop-equalizer type similar to those under the other new coaches which have been delivered to the New York Central during recent months.* These trucks have a wheel base of 9 ft. and are fitted with Timken roller-bearing journal boxes. Simplex unit-cylinder clasp brakes

* For a description of some of these cars see the *Railway Age* for November 1, 1941, page 897.

are applied to the trucks on one train and Budd disc brakes to those of the other. Sound deadening material has been used wherever needed to prevent the transmission of high-frequency vibrations to the car body.

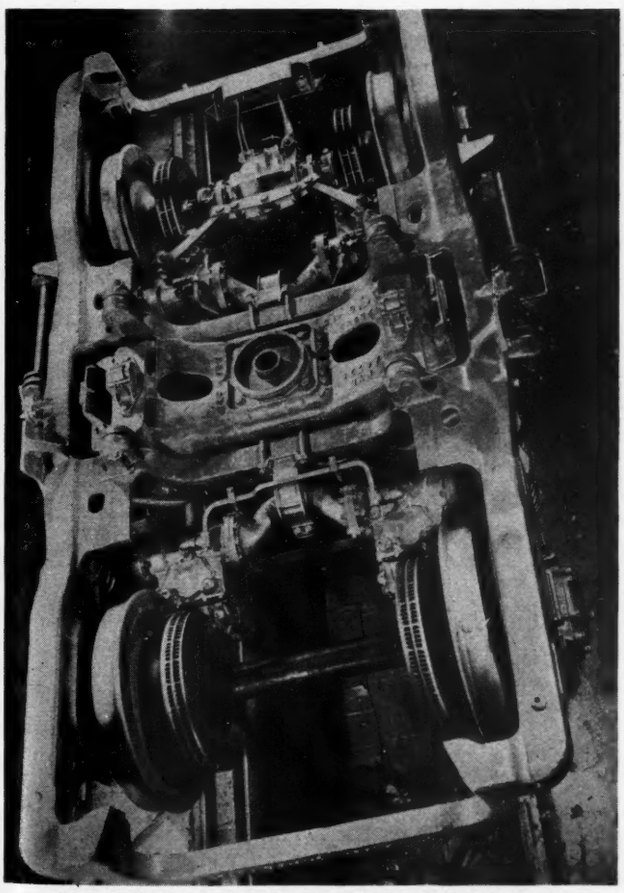
Both dining-car trucks and the truck under the rear end of the observation car are equipped with General Steel Castings roll stabilizers.

One of the illustrations shows the Budd brake installation. A double disc is bolted to the hub of each wheel. The brake cylinders and brake shoes are supported from a yoke, the ends of which bear on finished shoulders on the inside of the journal boxes and the center of which is supported from the truck transom in rubber blocks which provide for necessary freedom of motion and cushioning. The yoke bearing is attached to the transom by U-bolts so that the same truck castings can be used with the Budd brakes as are used with the clasp brakes. The air brakes are New York Schedule HSC with D-22 control valves, without the electro-pneumatic feature and speed-governor control.

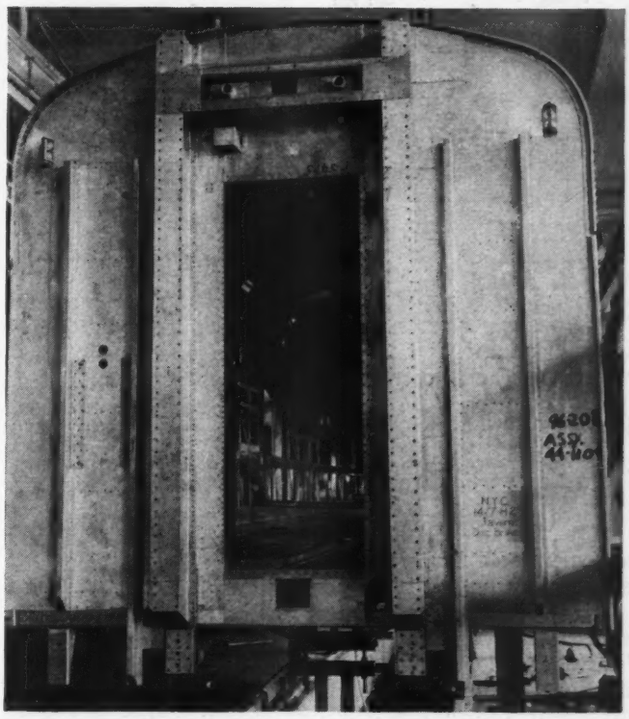
The weights of the various cars are shown in a table.

Partial List of Materials and Equipment on the New York Central Empire State Express

Stainless steel		Allegheny-Ludlum Steel Corp., Pittsburgh, Pa.
		American Steel & Wire Company, Cleveland, Ohio.
		Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
		The Eastern Rolling Mill Co., Baltimore, Md.
		Republic Steel Corp., Massillon, Ohio.
Trucks		General Steel Castings Corp., Eddystone, Pa.
Wheels and axles		Bethlehem Steel Co., Bethlehem, Pa.
Roller bearings		The Timken Roller Bearing Co., Canton, Ohio.
Springs		American Locomotive Co., Railway Steel Spring Div., New York.
Truck brakes	(16)	American Steel Foundries, Chicago.
	(16)	Budd Wheel Company, Detroit, Mich.
Hand brakes		National Brake Co., New York.



One of the Trucks Equipped with the Budd Disc Brake



The End Structure

Air brakes	New York Air Brake Co., New York.
Couplers	National Malleable and Steel Castings Co., Cleveland, Ohio.
Draft gear	Waugh Equipment Co., New York.
Castings	Crucible Steel Co. of America, New York.
	Dodge Steel Co., Philadelphia, Pa.
	Treadwell Engineering Co., Easton, Pa.
Air conditioning	Frigidaire Div., General Motors Corp., Dayton, Ohio.
Air diffusers (Aerofuse)	E. A. Lundy, Inc., New York.
Ventilating fans	B. F. Sturtevant Co., Hyde Park, Boston, Mass.
Heating	Vapor Car Heating Co., Inc., Chicago.
Conduits	Republic Steel Corp., Massillon, Ohio.
Electric wiring	General Electric Company, Schenectady, N. Y.
Lighting fixtures	Dayton Mfg. Co., Dayton, Ohio.
	Luminator, Inc., Chicago.
	Safety Car Heating & Lighting Co., New York.
Compressor control panels; De-ion breakers on lighting panels and for d.c. compressor control; a.c. motors on genemotor equipment; micarta for aerial tubing	Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
Genemotors	Safety Car Heating & Lighting Co., New York.
Generator drive	Spicer Mfg. Corp., Toledo, Ohio.
Batteries	Gould Storage Battery Corp., Depew, N. Y.
Fluorescent lamps	General Electric Company, Schenectady, N. Y.
Marker lamps; receptacles	The Pyle-National Company, Chicago.
Coach seats, lounge chairs, and sofas	S. Karpen & Bro., Inc., Chicago.
Vanity chairs	Troy Sunshade Co., Troy, Ohio.
Dining chairs	General Fireproofing Company, Youngstown, Ohio.
Upholstery	L. C. Chase & Co., Inc., New York.
Leather	Blanchard Bros. & Lane, Newark, N. J.
Drapes	Orinoka Mills, New York.
	J. H. Thorp & Co., Inc., New York.
Venetian blinds	Michael L. Kesner, Chicago.
Curtain fixtures	The Adams & Westlake Co., Elkhart, Ind.
Curtains	The Pantasote Co., Inc., New York.
Carpet	Bigelow Sanford Carpet Co., Inc., New York.
	C. H. Masland & Sons, Carlisle, Pa.
	Chas. Stoumen & Son, Philadelphia, Pa.
Cork for floors; linoleum	Armstrong Cork Co., Lancaster, Pa.
Interior paneling	H. H. Robertson Co., Pittsburgh, Pa.
Kitchen and bar equipment	Angelo Colonna, Philadelphia, Pa.
Sash	The Adams & Westlake Co., Elkhart, Ind.
	Hunter Sash Co., Inc., Flushing, L. I., N. Y.
Glass	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
	Pressed Prism Plate Glass Co., Chicago.
Insulation	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Pipe covering	Union Asbestos & Rubber Co., Chicago.
Lavatories	Crane Co., Chicago.
Hoppers	The Dayton Manufacturing Company, Dayton, Ohio.
Water cooler	Westinghouse Electric & Manufacturing Co., Springfield, Mass.
Hardware	Jas. L. Howard & Co., Hartford, Conn.
Paint	Sherwin Williams Co., Cleveland, Ohio.

Rate Hearings Open January 5

I. C. C. would conclude oral testimony within week and hear oral argument immediately thereafter

WASHINGTON, D. C.

SETTING the stage for expedited handling of the railroad application for increased freight and passenger rates which would produce about $356,956,000 additional annual revenue to offset augmented wage costs and other increases in expenses, the Interstate Commerce Commission has assigned the proceeding for hearing at Chicago on January 5, 1942. The commission's notice, issued December 15, said that the interested parties would be expected to have their evidence so organized and presented "that the taking of oral testimony will be concluded that week"; and oral argument will be held in Washington, D. C., "immediately following the close of the hearing."

The case has been docketed as Ex Parte No. 148, Increased Railway Rates, Fares and Charges, 1942; the hearings will be before Division 2, consisting of Commissioners Aitchison, Mahaffie and Splawn, and the oral argument before the full commission. For the convenience of persons who may be unable to attend and testify, the commission said that arrangements would be made for the reception and consideration of "duly verified statements."

Freight Rate and Fare Increases Sought

The railroad petition was filed on December 13. It seeks an increase of 10 per cent in all passenger fares except in the 1¼ cents per mile rate allowed members of the military or naval forces traveling on furlough. There also is no increase proposed in the extra fares charged on extra-fare trains.

As for freight, the petition seeks an increase of 10 per cent in all rates except for anthracite and bituminous coal, coke, and iron ore. In the case of anthracite and bituminous coal, the petition proposes an increase of five cents in rates stated on a net ton basis and six cents where stated on a gross ton basis except that rates from all origins to points west of Chicago and Milwaukee (both intraterritorial and interterritorial) are to be increased as follows: Rates of 75 cents and less to be increased three cents; rates from 76 cents to $1 to be increased five cents; rates over $1 to be increased 10 cents. For coke (the product of coal) an increase the same as bituminous coal is asked. For iron ore an increase is proposed of six cents per gross ton for the entire Western district plus one cent dockage at upper lake ports; an increase of six cents per net ton in the Southern district, and an increase of four cents per gross ton on all rates plus one cent increase in lake terminal charge in the Eastern district. An increase of 10 per cent is sought in all accessorial charges except in demurrage, dockage, tippling, or tollage charges or in the charges for protective service against heat or cold.

Increasing Costs Cited

Arguing in support of the foregoing proposals, the petition points out that the railroads "recently incurred certain unavoidable and continuing increases in their operating costs, which are so substantial that, unless promptly offset by increases in revenues, they will seriously impair the financial resources of petitioners and greatly endanger their ability to render adequate and efficient railway transportation service on which the safety of our country now more than ever before depends." Then comes the bill of particulars with the wage-case settlement first on the list. That is expected to result in an increase in wages for all Class I railroads of about $311,711,000 per year. From it will flow adjustments in the wages of employees not directly involved, and that is expected to cost an additional $20,000,000 a year.

Mention is also made of increases in material costs which are expected to be "substantial," and increases in operating costs "of not less than $30,000,000 per year as a result of certain precautionary measures which they (the railroads) are now taking upon recommendations of the War Department to safeguard their properties and operations during the continuance of the present war." Furthermore, as another result of the war, the railroads "are being called upon frequently to perform and are performing, in connection with the transportation of troops and property for the United States, many special and unusual services which add to the cost of such transportation but for which no compensation is included in the normal transportation charges named in petitioners' tariffs and ordinarily assessed by them on such movements."

The net railway operating income for the twelve months ended September 30, 1941, is given in the petition as $990,217,910 with a footnote stating that this figure does not include any adjustment for the wage increases effective retroactively to September 1. Meanwhile the fixed charges for that 12-months period totaled $625,785,000. And the petition alleges that if the wage increases and other increased operating costs mentioned above had been in effect throughout the period, "the aggregate net railway operating income of the Class I railroads would have exceeded their fixed charges for the period by only a relatively small amount and many of such railroads would not have earned their fixed charges."

Rise in Costs General—Thus General Rate Increase

Defending the request for general rate increases, the petition argues that increased operating costs upon which the plea is based "are general in character and apply to all traffic." Thus "to the extent that it is reasonable and practicable all traffic should be required to contribute to the payment thereof." Moreover, the petition goes on, the "critical nature of the situation" confronting the carriers makes the general-percentage-increase approach "the only practical method by which they may obtain the necessary added revenues." In the judgment of the railroads, the increases proposed will not result in rates that are unreasonable, and "will not result in a loss of traffic to petitioners to an extent that will deprive them of benefit therefrom in the way of a substantial increase in net revenue."

Concluding, the petition asks the commission to institute promptly such investigation as it thinks necessary,

having in mind "the critical nature of the situation now confronting petitioners." Upon promulgation of its decision, the commission is asked to permit the increases allowed to be made effective on one-day's notice by the publication of simple supplements to existing schedules. One appendix to the petition sets forth rules for the disposition of fractions in connection with the increases while another presents statistical data and embodies further argument in support of the petition. Average annual operating revenues during the 1931-1940 period, it is pointed out, were less by 37.6 per cent than during the 1921-1930 period; average annual net railway operating income was less by 48.1 per cent, while net income after fixed and contingent charges was less by 93.5 per cent. For the 12 months ended October 31, 1941, the net income after charges was less by 20.7 per cent than the 1921-1930 annual average.

"In any series of comparisons between 1941 and earlier periods," the statement continues, "it should be noted that rail carriers have made large investments in their properties over the past 20 years. . . . This increased investment has been fully justified by the increased efficiency and economy of operation. . . . At the same time, a given amount of net earnings represents a lower rate of return on the presently increased investment in the railway plant than the same amount did in 1921-1930." For the 12 months ended October 31, 1941, the rate of return on property investment is given as 3.8 per cent; based on the valuations used by the commission in the Ex Parte 115 case, "which the carriers considered too low," the corresponding rate of return was 5.02 per cent.

Expect 1942 Loadings to Be 10 Per Cent Above 1941

Next, the carriers present a brief resume of the wage controversy and the mediated settlement thereof. Here reference is made to how the Emergency Board "recognized that the present level of railroad earnings is not excessive." As to the earnings outlook for 1942, the petition says it is "generally believed" that carloadings will be 10 per cent above those of the current year. "On the other hand," it adds, "the carriers will undoubtedly be faced with increased costs of operation, the exact character and extent of which cannot now be determined, but which are likely to be substantial."

In the latter connection, mention is made of expected increases in costs of fuel and other materials and supplies.

Meanwhile, "another element of added costs arises out of the enlarged equipment program of the carriers." If government allocations of material can be obtained for units now on order or to be ordered, "total deliveries by October 1, 1942, will be approximately 105,000 freight cars and about 900 locomotives, with a net increase in ownership of at least 75,000 freight cars and 300 to 400 locomotives." Also, further reductions in unserviceable or bad order equipment are contemplated. Finally, performance averages are cited to show that the rail carriers "are efficiently and economically operated."

Water Lines Follow Suit

Following upon the railroad application was that of 11 steamship lines operating along the Atlantic seaboard and Gulf of Mexico. These petitioners adopted the railroad petition, joining in that request for increases in rail-water rates. Also, they prayed for authority to publish corresponding increases in their local, joint and proportional all-water rates, and in rail truck rates to the extent that such rates are subject to I. C. C. jurisdiction. In support of their petition the water lines allege that they, too, are confronted with increased costs as a result of demands of labor and rises in prices of fuel and in costs of repairs.

Prior to the filing of the railroad petition, the Railway Express Agency initiated a move for increased revenue to meet its augmented wage costs. It filed an application for fourth-section relief to permit it to impose an emergency charge of not to exceed six cents per shipment. After the final settlement of the wage case whereby R. E. A. employees got a 10 cents per hour raise, R. E. A. advised the commission that it deemed it necessary to modify the application—to provide for an emergency charge of 10 cents per shipment instead of the six cents.

The Office of Price Administration is expected to intervene in the rate case, OPA Administrator Leon Henderson having recently indicated his view that at least part of the wage increase should be absorbed out of present railway earnings. Mr. Henderson's comment came in the course of his testimony at House judiciary committee hearings on the pending price control bill.

The Economics of the New Empire State Express

(*Continued from page 1028*)

with the Central's Detroiter and Cleveland Limited (each doing a good train-load of sleeping-car business in each direction daily) because these are all-Pullman trains catering to commercial travelers who do not want to spend a day en route. Nor is the Empire's day service likely to divert coach travel from night trains such as the Southwestern Limited and Wolverine. Empire service will offer a real attraction to people visiting back and forth and making other kinds of non-commercial trips. Most of this kind of travel today is, undoubtedly, on the highway.[5]

The new Empire is a highly efficient mass producer of the highest type of passenger transportation. It will operate in an area already proved to be one of the country's greatest markets for such transportation. The train's attractiveness and new features have real public appeal and are being dramatized to the utmost in a publicity and advertising program in which the railroad and train's builders, the Edward G. Budd Manufacturing Company, are cooperating. The preliminary planning for the train now faces the test of comparison with actual results. Provision is being made for scientific judgment of results, because records will be kept of tickets sold between all principal stations on the railroad during representative months before and after the new train goes into operation. Comparison of the trend in ticket sales between the points served by the new Empire with the trend in ticket sales over the entire railroad will afford an accurate index of the train's performance. Thus, there will be a reasonably precise answer to the all-important question of how many passengers on the new train represent real new business and how many represent business diverted from other trains.

All who have taken part in planning or construction look forward eagerly to the time when the new Empire may have created what would be a most welcome problem —how to take care of more passengers than even its spacious equipment can carry.

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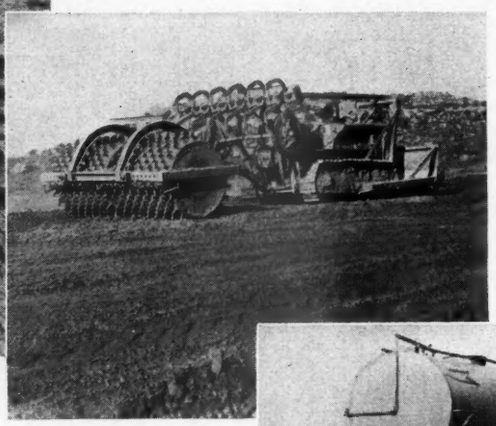
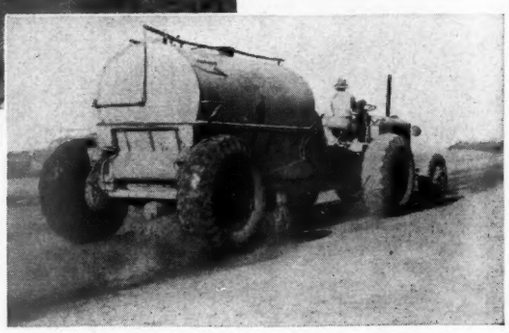
[5] United States Public Roads Administration highway traffic surveys show that the highways along the Empire's route rank high among the heavy-density traffic routes of the country and carry far more inter-city passengers than the railroad.

Soil Compaction
Dense Fills on

A Small Army of Equipment Was Employed on the Work





Left — One of the Heavy Sheepsfoot Rollers Employed in the Fill Compaction, and Below, One of the Water Sprinklers

IN Bent County, Colo., where the federal government is building a large dam in the Arkansas river in its John Martin Reservoir project, the Army Engineers, acting for the government, have recently completed a 20-mile line change on the Atchison, Topeka & Santa Fe to move the existing single-track main line outside the proposed reservoir area. This work is of special interest because of the unusually effective grading methods employed to insure maximum density in fills, and also because of the soil stabilization work that was carried out along sections of the new line in active sand dune areas, to prevent the migration of these dunes, with the added problems which they might otherwise present to railway operation and maintenance.

Other features of the line change work include three, three-span bridges over lateral streams flowing into the Arkansas River valley, two of these involving piers from 85 to 100 ft. high and continuous deck girder spans, and the special rip rap bank protection that was afforded embankments at all three bridge crossings to preclude erosion from stream flow or wave action. As a whole, the line change work involved approximately 3,150,000 cu. yd. of grading from excavation and borrow; the use of approximately 150,000,000 gal. of water in pre-wetting and sprinkling embankment materials; approximately 11,800 cu. yd. of concrete in bridge and culvert construction; and the placing of approximately 84,000 cu. yd. of rip rap, about one-third of which was hand-set and grouted.

Line Forced 1½ Miles to the South

The dam being built in the John Martin Reservoir project is located in the river valley about one mile east of Caddoa, Colo., and will be a concrete and earth-fill structure, with a spillway located in the concrete section. At its flood plain, the dam, including the spillway section, will have a length of approximately 4,000 ft., and its crest will be about 120 ft. above the level of the valley floor. The reservoir to be impounded will be approximately 14.2 miles long when at full pool level, with an average width of about 1.9 miles, and will cover an area of approximately 27.5 sq. mi.

Since it was located directly along the south bank of the river throughout the proposed reservoir area, it was evident that the main line of the Santa Fe would have to be relocated outside the limits of the reservoir. This was accomplished by the line change carried out, which, beginning at a point approximately eight miles downstream from the dam site, swings to the south on higher ground along the south side of the river valley, crossing in succession Mud, Caddoa and Rule creeks, and connecting back into the existing main line at a point approximately 16.9 miles west of the initial point of line change. From here, for approximately 1.17 miles to the west, the original line was undisturbed, but then, for an additional 3.1 miles, there was a slight lateral shift in the line to the north on a somewhat higher grade, ending at a point 21.2 miles from the initial point of line change.

The new line, which in its swing to the south lies a maximum of about 1½ miles from the original line, has a maximum gradient of 0.4 per cent in its climb to a point above full pool level, and maximum curvature of 1 deg. Throughout, it has been built to high standards, incorporating new 131-lb. rail, 7-in. by 9-in. treated cross-

Methods Produce Line Change

Sand dune stabilization and bank protection work are also features of the 20-mile diversion on the Santa Fe, constructed by the U. S. army engineers in Colorado

One of the Ponding Areas Employed to Pre-Wet the Material Placed in Embankments

ties 9 ft. long, and 10 in. of slag top ballast over 7 in. of gravel sub-ballast.

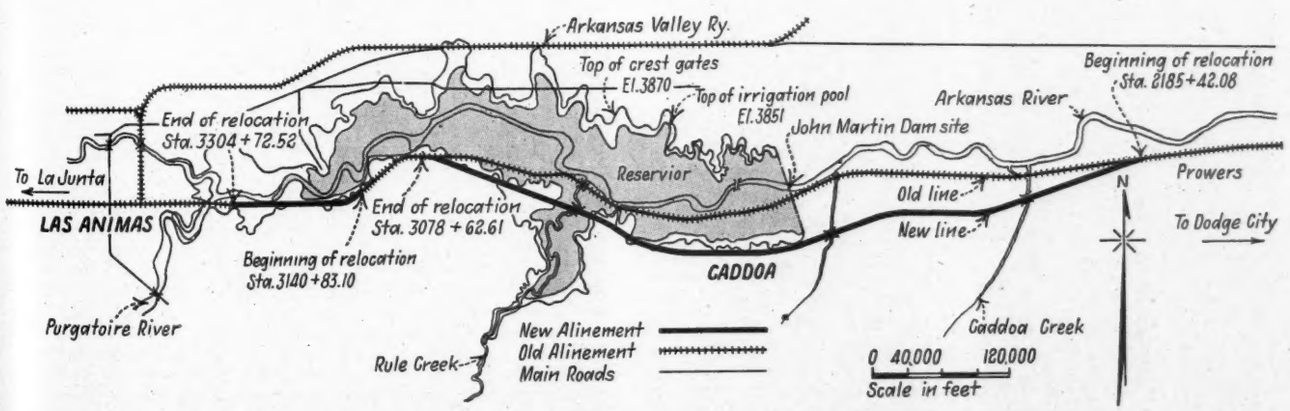
Special Grading Problems

Traversing a semi-arid country, the soil encountered generally is a heavy dune sand, although it is patched with areas of a mixture of sand and clay, soft shales, and rock. In addition, and of particular concern to the railroad, the territory is spotted with a large number of migrating sand dunes and, in at least one location, across the valley of Rule creek, a deep bed of loess was encountered. Each of these various materials required special consideration in the grading work.

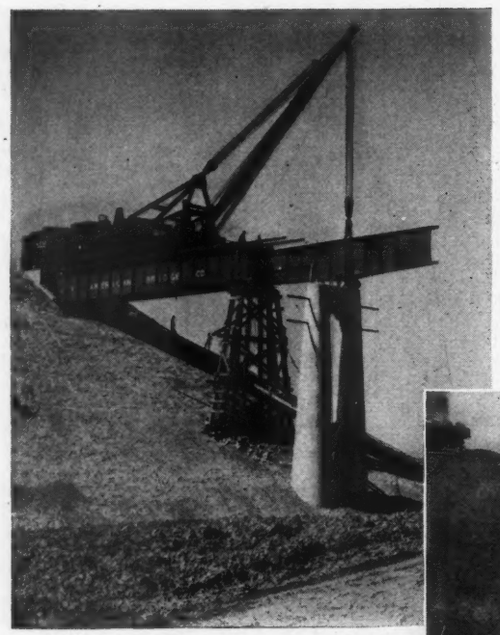
Grading on the new line was not exceptionally heavy, fills generally ranging in height from a few feet to a maximum of about 25 ft., except at the crossings of the relatively wide lateral valleys of Mud, Caddoa and Rule creeks, where the embankments are built out from each side to the new bridge openings, reaching a maximum height of approximately 80 ft. at both the Caddoa and Rule creek crossings, and at Caddoa creek involving more than 1,300,000 cu. yd. of filling material. The deepest cut on the new line is approximately 25 ft. on its center line, this being the one major rock cut encountered, which is in sandstone and shale. That the volume of material required for fills greatly exceeded the excavation in cuts, is seen in the fact that of the total 3,150,000 cu. yd. of grading, 2,291,000 cu. yd., or more than 72 per cent, came from borrow pits.

Standards for the roadbed construction called for a subgrade width of 20 ft., plus 2 per cent of the center height, for embankments less than 20 ft. high; a width of 22 ft. plus 2 per cent of the center line height for embankments 20 to 40 ft. high; and a width of 24 ft. for embankments in excess of 40 ft. high. The normal width in cuts was set at 28 ft., although this was exceeded at many points to secure filling material.

In general, all side slopes of embankments were made 1½ to 1, the principal exception in this regard being the



Sketch Map of the Area Involved in the John Martin Reservoir Project, in Colo., Showing the 20-Mile Line Diversion Necessary on the Santa Fe



Above — Erecting the 326-Ft., 3-Span Bridge Over Rule Creek

Left—Hand Placing Rip Rap, to Be Grouted Subsequently, Around the Slope at the East Abutment of the Rule Creek Bridge

sections of embankment at the Rule Creek crossing, which, for the most part, will be submerged by reservoir water. Here, embankment slopes of 2 to 1 were used and, as will be pointed out later, special measures were taken in the construction of the embankments to insure their maximum density.

In cuts in sand and in loose earth, side slopes of 4 to 1 were called for, while in firm earth, soft shales and loose rock, a slope of 1 to 1 was permitted. In the relatively small amount of solid rock encountered, slope faces of ½ to 1 were used.

Specifications Incorporate Unusual Features

Employing practices developed in recent large-scale earth dam construction, features of the grading for the new line constitute an outstanding advance over earlier railroad grading methods. Equally important is the provision for seven inches of gravel sub-ballast in both cuts and fills, laid down integral with the grading work, with its top surface in both cases considered as final subgrade. These features of the grading are pointed out in the following sections of the specifications covering the work.

Preparation of Foundation Areas Under the Roadway Embankment—General—After the completion of the clearing and grubbing operations, and the removal of unsuitable materials where directed by the contracting officer, the entire foundation for the roadway embankments shall be plowed, scarified, or by other means broken up thoroughly to a depth of nine inches, and then compacted by wetting and rolling with a sheepsfoot roller in the manner specified for the construction of the roadway embankment. The foundation areas shall be compacted so that the material, to a depth of nine inches, has a density at least equal to the density required for that particular soil when placed in embankments. Immediately prior to the placing of embankment materials on the foundation, the foundation shall be moistened and the surface roughened by rolling with a sheepsfoot roller, if necessary, to secure adequate bonding. Wetting and compaction of the foundation shall be kept at least 100 ft. ahead of the embankment construction.

Materials—The final disposition of materials in the roadbed embankment shall be subject to the control of the contracting officer. In general, dune sand containing a small amount of binding materials shall be deposited in the embankment in layers alternately with layers of other materials containing clay, silt or other adequate binding soil. No brush, roots, sod or other perishable or unsuitable materials, as determined by the contracting officer, shall be placed in roadway embankments.

Construction of Earth Embankments—Placement—Earth embankments for the roadway for main and other tracks shall be built in horizontal layers not more than eight inches in thickness before compaction. The layers shall be constructed to the full width of the embankment and built to the true slope. In no case shall the embankment be widened by side dumping. The embankment shall be kept crowned at all times during its construction, and at no time shall free water be allowed to stand on it. Each layer shall be compacted by moistening and rolling. Each successive lift or layer shall be carefully graded and completely and uniformly compacted over the full width of the embankment before the succeeding layer is placed.

Embankment material which does not contain sufficient moisture to attain its required compaction shall be wetted by sprinkling or by other methods approved by the contracting officer. The contracting officer may require the contractor to pre-wet the materials in the borrow pits and roadway excavation areas prior to their excavation if, in his opinion, proper uniform moistening is not being obtained by wetting the materials on the embankment. Material containing an excess of moisture shall be permitted to dry to the proper consistency before being compacted. When it is necessary to add water to the material, it shall be mixed thoroughly and uniformly with the soil before it is rolled. The mixing shall be accomplished by means of spring-tooth harrows, disc harrows, disc plows or by other equipment and methods approved by the contracting officer. The proper amounts of water to be used for obtaining the required compaction for any particular soil will be determined by the contracting officer.

Compaction of Earth Embankment—General—Except as specified elsewhere, roadway embankments constructed of earth shall be compacted to the following percentages of maximum dry density in pounds per cubic foot of compacted soil as determined by the so-called "Proctor Method."

For soils having a maximum dry density of 115 lb. per cu. ft. or more.....90 per cent.

For soils having a maximum dry density of less than 115 lb. per cu. ft.....95 per cent.

The maximum dry density will be determined by the contracting officer for various types of soils encountered in the required excavation and in the designated borrow areas, and he will inform the contractor of the required density for each particular type of soil. It is estimated that an average of eight passes of the sheepsfoot roller will be required to secure the required compaction. However, the number of passes necessary to secure the specified compactions shall be used, whether it be more or less than that indicated above.

Construction of Rock Embankments — Where roadway and other embankments are constructed partially of earth and partially of rock, the rock shall be deposited in the embankments in layers not exceeding two feet in thickness. The rock layers shall extend the full width of the embankment and a dense solid embankment shall be obtained for the full width by distributing the rock over the area and completely filling the voids in the rock with earth. Earth used to fill the void in the rock shall be moistened as required. Each rock layer shall be compacted by routing the contractor's hauling and spreading equipment over the entire width of the layer. The contractor may be required to make additional passes over the embankment with his hauling and spreading equipment to secure the required compaction. The succeeding layer of embankment on top of a rock layer shall con-

sist of earth, not exceeding 8 in. in thickness before compaction, placed and compacted as required for earth embankments.

Surfacing Roadway Embankments for Main Track—Roadway embankments for the main track shall be surfaced with bank-run gravel, seven inches thick after compaction.—The embankment for the main track shall be completed to its final dimensions and grades free from ruts and depressions prior to the placing of the gravel surfacing. The gravel surfacing shall be spread uniformly over the embankments, shaped to the required section, thoroughly and uniformly moistened if necessary to obtain the required compaction, and compacted as required for earth embankments to a thickness of seven inches. The contractor will not be allowed to haul over the earth embankment, but shall transport the gravel surfacing over embankments already surfaced.

In a section of the specifications comparable to the foregoing, dealing with the surfacing of the roadbed for the main track in cuts, the following requirements were set up:

Excavation Below Subgrade—Excavation for the roadbed shall be carried to a depth of seven inches below subgrade. The roadbed shall then be moistened if deemed necessary by the contracting officer, and then compacted by rolling with a sheepsfoot roller in the manner and to the density required for roadway embankments generally. The finished roadbed shall be formed by refilling to subgrade with seven inches of gravel surfacing as specified in the section covering the surfacing of roadway embankments.

Pre-Consolidated Loess Foundation

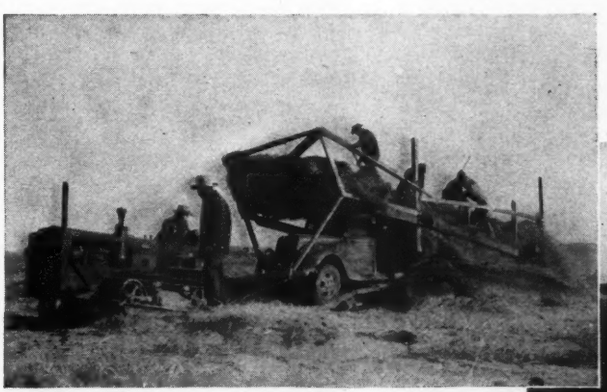
Across the valley of Rule creek, and especially west of the creek, where the natural soil was especially light, and where the fill will be within the reservoir area, the specifications for the preparation of the foundation for the fill, and for the construction of the fill itself, were still more stringent than for embankments generally on the line. Here, the natural soil is largely loess, an unstratified deposit of yellowish-brown loam, which extends to a depth of 10 to 15 ft., to rock. Experience with this type of soil indicated that if not pre-consolidated, this bed of loess, under the dead load of the fill proposed, would consolidate as much as 18 in. when subsequently wetted by the reservoir water. Accordingly, measures were adopted to insure this full consolidation of the foundation bed prior to and during the construction of the fill, and not wait for it to take place subsequently, under traffic, when wetted by reservoir water. These measures were embodied in the following special section of the specifications:

Preparation of Foundation for Embankment Across Rule Creek Valley—The foundation for the embankment across Rule Creek valley shall be inclosed with temporary earth dikes and shall be completely covered with water. After the water has soaked into the foundation, the foundation shall again be flooded, and this process shall be repeated until the foundation is completely saturated throughout its earth portion, as determined by the contracting officer, but in no case for a period longer than 30 days prior to the placement of embankment materials thereon. Immediately prior to the commencement of embankment placing, the water shall be drained from the foundation and, after drying sufficiently to be worked, the foundation shall be thoroughly broken up and compacted with a sheepsfoot roller as provided for foundations generally.

The more stringent requirements for the construction of the embankment across the valley of Rule creek, calling for maximum density, as compared with 90 to 95 per cent of maximum specified for the fills generally on the line, are contained in the following section of the specifications:

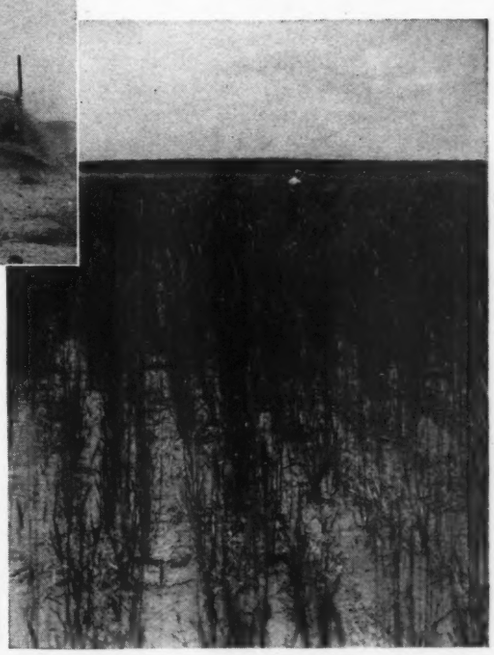
Embankment Across Rule Creek Valley—The portion of the embankment across Rule Creek valley, below maximum water level in the reservoir, between Station 2875 and 2911, shall be compacted to maximum density. The application of water to the material shall be carefully controlled, and the moisture content of the materials while being rolled shall be the amount required to secure maximum density as required by the contracting officer. The moisture content shall be uniform throughout each layer. It is estimated that an average of 14 passes of the sheepsfoot roller over each layer will be required to secure maximum density, but in any case the rolling shall be continued until the material reaches its maximum density as determined by the contracting officer. Compaction of that portion of the embankment over Rule Creek valley above maximum reservoir level shall conform to the requirements for embankments generally.

Under the foregoing sections of the specifications, not only was maximum density obtained in the high embankment over the loess foundation in Rule Creek valley, precluding further increase in consolidation with saturation by the reservoir, and thus proportional subsidence under traffic, but practically full consolidation was obtained in the foundation material itself, insuring that when the reservoir is impounded, settlement of the fill as a whole will be practically negligible. That this condition will prevail was demonstrated by the settlement of steel test plates placed on the foundation surface prior to the construction of the embankment. Level readings taken on these plates through the completed embankment showed that with the construction of the fill on the prewetted foundation, they had settled approximately 18 in., or just about equal to the amount that it was estimated



Right— Unloading Wheat Straw for Mulching a Sand Dune Area, Prior to Drilling in Rye or Other Long Root Vegetation

Below—A Stand of Rye and Volunteer Wheat On What Was Formerly a Barren Shifting Surface



the dry bed of loess would consolidate under the weight of the embankment when wetted by the reservoir, if not pre-densified.

Employ Proctor Method

All of the density or compaction specifications set up for the grading on the line change, as indicated previously, were based on the Proctor method. In this method, a so-called Proctor curve is prepared for each of the classes of soils and combinations of soils to be employed in the embankment, this curve plotting density against moisture content. With these curves, prepared in the laboratory for the soil from each borrow pit or other point of excavation to be employed in filling operations, a constant field check was kept on the density of the soil as compacted in the fills. Briefly, the field check was made by digging out a known volume of the compacted fill, in the form of a hole from the top surface, and weighing it. Knowing from the Proctor curve for the particular soil the weight for the degree of compaction required under the specifications, the unit weight of the soil removed from the fill showed immediately whether the compaction desired had been obtained.

To determine readily in the field the volume of the sample of soil removed from the fill, the hole dug in securing a sample was back-filled with a calibrated sand. Weighing the container of test sand before and after the test hole had been filled, showed immediately the size of the hole, and thus of the volume of fill material that had been removed. A hand squeeze test by the experienced inspectors employed on the work showed invariably within one or two per cent whether the moisture content was that called for by the Proctor curve, which, in the event the sample taken from the fill showed less than the density called for, indicated immediately whether it was more moisture or more rolling, or both, which was required to increase the density of the fill to the degree called for in the specifications. In connection with these field tests, which were carried out repeatedly over each layer of fill as compacted, bottle samples of the fill material were taken into the laboratory for an accurate determination of their moisture content, thus checking determinations in the field.

Pre-Wet Filling Materials

The Proctor curve studies of the soils involved in the line change grading indicated that to secure 90 to 95 per cent of optimum compaction, as called for in the specifications for embankments generally, required a moisture content varying from approximately 15 to 20 per cent, and averaging about 17 per cent, in combination with 10 or more passes of a sheepsfoot roller. In the Rule Creek fill, where maximum density was called for, this was secured primarily by an increase in the number of passes of the roller, this reaching as many as 18 over certain classes of material.

Since to add anywhere near 17 per cent moisture to the filling material as placed in embankments would have involved difficulties from the standpoint of both placing the moisture and of securing its uniform distribution, pre-wetting of the material to approximately 11 per cent moisture content was resorted to generally on the work, both in roadway excavation used for filling, and in borrow pits. Moved into embankments with this moisture content, the remaining moisture called for was applied by tank-type sprinklers working in conjunction with the grading and compacting equipment.

In the pre-wetting work, the ponding method was used, which involved building up a series of lateral and tranverse windrows, about one foot high, over the face of the area to be excavated, forming a waffle-like area with squares approximately 10 ft. by 15 ft., and then flooding the entire area with water. Ponding was usually begun a week to 10 days before excavation, each successive ponding creating the moisture desired to a depth of two to four feet.

Water for the large amount of ponding and embankment wetting done was obtained directly from the Arkansas river, Mud, Rule and Caddoa creeks, and from a well drilled near Caddoa creek. This was pumped either directly to the borrow areas, as required, or to 6,000-gal. elevated storage tanks located near the site of filling operations, for supplying the tank trucks employed in wetting the fills as placed. That the ponding and subsequent embankment wetting were extensive, is seen in the fact that more than 150,000,000 gal. of water were used in these operations.

Modern Grading Equipment

The earth-handling equipment employed on the line change was grouped essentially in two outfits. One of these, called a scraper outfit, was employed principally in constructing the shallower fills, up to a maximum height of approximately 25 ft., and where the haul was limited to approximately 1,000 ft. The other, called a wheeler outfit, with generally greater hauling speed, was used primarily where high lifts and hauls in excess of 1,000 ft. were involved.

The scraper outfit included 12 RD8 hauling tractors, some equipped with push fronts or bulldozers; seven 7-yd. trucks; ten 13-yd. scrapers; 2 sheepsfoot rollers, 14 ft. wide., 5 ft. in diameter, and weighing 7½ tons; and 1 motor patrol-type blading grader. The wheeler outfit, on the other hand, included twelve 7-yd. wheelers, with a loaded speed of 18 m. p. h. and an empty speed of 20 to 22 m. p. h.; 5 RD8 hauling tractors, equipped with push fronts or bulldozers; 2 motor patrol-type blading graders; and 2 sheepsfoot rollers. This equipment of the two outfits was supplemented by two 2,000-gal. water truck sprinklers, hauled by wheeled tractors, and two 1,200-gal. tank trucks, employed in the embankment-wetting operations.

With the two grading outfits working for the most part for three shifts each day and employing 12 twin-projector portable electric floodlighting plants for night illumination, an average of 25,000 cu. yd. of material was moved each 24-hr. period during the major part of the work, reaching a maximum of approximately 35,000 cu. yd. on a number of occasions. Owing to the high moisture content called for in the embankments, and the low winter temperatures that prevail in the area of the work, reaching below zero for protracted periods, grading could not begin until danger of freezing had passed, in March, although work on the bridge foundations and substructures was begun in the preceding December. However, the grading and bridge construction operations as a whole were closely co-ordinated, and the grading was completed in time to permit bringing in the bridge superstructure steel for erection according to schedule.

Extensive Rip Rap Protection

In conjunction with the grading and bridge substructure work, the head of the banks at the three bridge crossings were paved with a course of grouted rip rap, two feet thick, carried up in each case to a point above maximum high water level, and extended down along the toe to shale or firm rock to prevent the possibility of undermining. Furthermore, in Caddoa creek, where an

appreciable change was made in the channel of the creek to straighten its alinement and improve flow conditions generally, the channel throughout the bridge opening and for some distance each side was paved with a 12-in. slab of concrete, toed into ledge rock or shale in the creek bed at its upstream and downstream ends by means of cut-off walls.

At the Rule Creek crossing, located within the reservoir area, the rip rap protection afforded the embankments was more extensive than at either Mud or Caddoa creek, being carried along both sides of the fills up to subgrade throughout their extent within the reservoir. Back from the ends of the fills, the rip rap face was either hand-placed and grouted, or dumped, as conditions warranted. That the bank protection afforded at the three bridge openings was extensive is seen in the fact that it involved the use of approximately 20,5000 cu. yd. of hand-placed rock and 57,000 cu. yd. of dumped rock.

Three Sizable Bridges

All three of the bridges on the line change are single-track, deck plate girder structures, with ballasted decks, designed for Cooper's E-65 loading. Of the three, the one over Rule creek is the largest, with a length of 326 ft., face to face of abutments, but the bridge over Caddoa creek is 303 ft. long and the most unusual in that it involves three 100-ft. continuous spans. The Rule Creek bridge, on the other hand, has two 115-ft. continuous spans and a 90-ft. simple span, while the bridge over Mud creek involves an 80-ft. simple center span, flanked on each end by a 60-ft. simple span. In the continuous span design, economy was sought in both the superstructure steel and in the smaller cross-sectional area of the piers required.

The piers and abutments of all three bridges are of reinforced concrete construction, of the skeleton type, in which the fill extends through and around them, minimizing back pressure. All are carried down to firm foundations on sandstone, a maximum depth of approximately 30 ft. The highest piers, which are in the bridges over Caddoa and Rule creeks, are from 85 to 100 ft. high.

Class B concrete, with a strength of 3,000 lb. per sq. in., was employed in all abutments and piers, except in the piers of the bridge over Rule creek, where, above their footing levels, Class A concrete, with a strength of 3,500 lb. per sq. in., was used. All of the concrete at each bridge site was prepared in a two-yard mixer at a central batching plant and was transported in one-yard buckets on trucks to the points of placement. At the pier and abutment sites, the buckets were hoisted into the forms by means of a long-boom crawler-mounted crane. The forms throughout were of wood, lined with Douglas fir plywood.

Construction of the substructures was carried on throughout the winter, heating the aggregates and mixing water and protecting the concrete in place by means of tarpaulins and salamanders, as required. Erection of the superstructure of each bridge was not undertaken until the grading was completed up to one end of the structure, so that the steel could be brought in by rail. All erection was done with a derrick car, which placed the 60-ft. spans of the Mud Creek bridge as units, but which handled singly the girders of the 80- and 90-ft. simple spans of the Mud and Rule Creek bridges. In erecting the continuous spans of both the Rule and Caddoa Creek structures, a field splice was employed between each adjacent pair of masonry supports, in each case with the aid of a single false-work bent.

The decks of all of the bridges are in accordance with the standards of the Santa Fe for ballasted-deck plate girder structures, and involve a solid floor of 8-in. treated timbers, 14 ft. long, supporting six inches of slag ballast beneath the track ties. Each has a timber walkway on both sides, 2 ft. 2 in. wide, with outside timber hand rails, the planking of the walkways being covered with three inches of ballast as a precaution against fire.

Soil Stabilization

Along with the features of the line change already described, of interest also is the soil control work carried out for a considerable distance each side of the track, especially to stabilize active sand dunes which might otherwise foul or threaten the track structure. In this work, approximately 500 acres of dune surface, in patches from as small as 1 acre to as large as 100 acres, were either seeded with native grasses or planted with saplings, or both, employing unusual and particularly effective features in some respects.

For the most part, the grasses planted were Blue Grama and Side Oats Grama. After the seed was drilled in, the surface of the ground was mulched with wheat and barley straw. In the mulching operation, the straw was first spread over the ground evenly to the extent of approximately 6¾ tons to the acre, and was then rolled in with a land packer. This machine is a heavy unit with a series of 18 disc-type wheels spaced 9 in. apart, which tuck the straw into the ground at 9-in. intervals to a depth of approximately 2 in., anchoring it and the sand beneath against movement by the wind, and thus giving the grass seed an opportunity to take root. Incidentally, there was considerable volunteer growth from the straw itself, which added appreciably to the effectiveness of the method used.

Where saplings were planted as a further stabilizing influence, which covered approximately 27 acres, they were largely of cottonwood and tamerisk obtained from the Arkansas river bottom in the vicinity of the work. These two types of saplings were alternated in rows about 10½ ft. apart, and were spaced about 4 ft. apart in each row.

All of the work described was carried out by and at the cost of the federal government, under the direction of the Corps of Engineers, U. S. Army, with Major James H. Stratton, district engineer, in charge. The grading and bridge masonry work were done under contract by the Western Contracting Company, Sioux City, Ia., while the bridge steel, furnished by the American Bridge Company, Pittsburgh, Pa., was erected by List & Weatherly, Kansas City, Mo. All of the track work was done by the Santa Fe.

The interests of the Santa Fe in the line change, including the approval of all plans, were in the hands of G. W. Harris, chief engineer of the system, and T. A. Blair, chief engineer, Western lines, represented in the field by G. L. Mercer and C. H. Sandberg, assistant engineers.

A TRIP FROM CHICAGO TO JOLIET, ILL., and return over the Chicago, Rock Island & Pacific was a feature of the fifth annual dinner of the Railroad Club of Chicago, Inc., on November 29. About 60 persons took the trip in a diner and lounge car that were reserved for the club and which were handled on regularly scheduled suburban trains. At Joliet, the American Locomotive Company's film "Railroadin'" and a technicolor picture of the Rocky Mountain Rocket and Colorado were shown at the Woodruff Hotel. The club was organized in 1934 by men interested in railroads as a hobby. Club rooms in the Dearborn station are provided through the courtesy of the Chicago & Western Indiana. The club has been active in planning rail-fan trips out of Chicago.

Railways Meet with OPM to Prepare "All-Out" Effort

Along with equipment and supply manufacturers, they discuss requirements and form committee to give expert advice to government agencies

IN an effort to bring out and consider the revised needs of the railways in the face of the increased demands that will be placed upon them as the result of the United States involvement in the war, and to set up advisory committees to work closely with governmental agencies, more than 200 representatives of the railways and railway equipment and supply industry, including the Association of American Railroads, the American Short Line Railroad Association, car and locomotive builders and specialty manufacturers, met with representatives of the Office of Production Management in Washington, D. C., on December 12. The meeting, which was conducted by Andrew Stevenson, active chief of the Transportation, Automotive and Farm Equipment branch of OPM, was also attended by William S. Knudsen, director general, OPM.; Donald M. Nelson, executive director of the Supply, Priorities and Allocations Board, and also director of the Priorities division, OPM; W. L. Batt, director, Division of Materials, OPM; Joseph B. Eastman, chairman of the Interstate Commerce Commission; and Ralph Budd, transportation commissioner of the Advisory Commission to the Council of National Defense.

Asks R. Rs. to Set Up Permanent Committee

Following brief general remarks by Messrs. Knudsen, Nelson and Batt, all of whom stressed the importance of the organization of the Transportation Industry committee for the purpose of rendering advice on transportation matters when called upon by the OPM, it was pointed out that the OPM is now asking the railway industry to nominate a permanent committee of approximately 20, including nine members representing the railways (seven for Class I railways, one for the Short lines, and one for the Terminal companies), two representing the locomotive builders, four representing the car builders, and the balance representing the appliance group.

It was pointed out further that there will be nothing illegal or unlawful in the industry co-operation called for, or in the selection of its representatives or activities, provided it keeps within the scope of the procedure outlined by the Department of Justice. It was also pointed out that the Industry committee does not undertake to formulate or to administer policies, or to attempt to compel or coerce any member of the industry to comply with any request, even though that request comes from the OPM.

OPM Must Know Railroad Needs

Mr. Stevenson stated that his division of OPM had attempted to ascertain the number of cars and locomotives that are required, and those that can be scheduled; and the capacities of the builders and the amount of materials involved in those particular requirements. It attempted further to find out whether the materials were available, whether if they were available for all industries, they were available to the railroad industry under the present existing distribution of the priority system, or whether the present ratings should be superseded by some kind of allocation.

That has been a difficult task, he said, particularly in view of the plate situation. Some decision has to be made whether some of these plates are going to one type of transportation or another. In weighing all of these alternatives, the Board must have before it all of the facts bearing on that particular problem, and must have the best judgment of those in the industry, backed up by accurate data, not bargaining data, because in turn it must weigh these facts against the demands of the military services, whose data are subject to pretty good check and scheduling. What we are trying to do is to prepare a complete railroad program for 1942, Mr. Stevenson said, so that there will be more assurance that a given amount of material at least will be available for locomotive builders, appliance manufacturers and railroad repair shops.

Ralph Budd States Railroad Position

Ralph Budd stated that from the very beginning of our defense effort there has been a specific railroad program. A year ago it was based on the hope to have a railroad ownership of 1,700,000 freight cars and approximately 900 new locomotives by October 1, 1941. As the demand for transportation increased, that program was raised to 1,800,000 freight cars, and between 900 and 1,000 new locomotives by October 1, 1942. In addition to that, it was assumed that the existing railroad plant would be maintained in good condition, although it was known that as traffic increases, the wear and tear becomes greater and the needs for repairs increase very sharply.

Mr. Budd also referred to the fact that the railroads have revised their plans for dismantling old equipment and have carried over as many of their cars as they could, on the theory that they could, by putting in some money and material, secure increased carrying capacity with less expenditure of effort than by building new cars, which would have been necessary if they had followed the usual program of retiring cars as rapidly as it became uneconomical to repair them. That has resulted in less than half as many cars being retired annually as would otherwise have been retired. From 50,000 to 60,000 cars will be rebuilt and will consume substantial additional quantities of material. That is why we need more than the average amount of material that goes into equipment maintenance. The same applies to track structures, because the entire track structure is under greater stress, is being used more than normally, and requires

more than normal repairs. Mr. Budd said that the program for the acquisition of new cars was 24,370 cars short of the anticipated 1,700,000 on October 1, 1941.

War Demands Enlarged Plans

Things have changed radically since December 7, Mr. Budd continued. The capacity of the manufacturing plants of the country must now be stepped up, and the railroads must be considered a part of that general national productive effort. It would be stupid to overexpand production and not take care of transportation facilities. One cannot tell what 1943 will bring forth, but in all probability this will not be a short war, and, therefore, the country must not rely on the theory that we can go ahead as we did in the last war and wear out the railroad plant—that it will soon all be over, and that then we can repair it in peace time. So far as one can tell, the railroad duty will be considerably greater in 1943 and 1944, and the greatest mistake we could make would be to neglect to repair the plants on the theory that it will soon be over. A plant as large and complex as the railroad plant is slow in sinking below a certain level of upkeep, but it is also just as slow in coming back.

Another thing that Mr. Budd pointed out is that the developments of December 7 will probably throw a very substantial increase in traffic on the railroads, because the theatre of operations will first be on the West Coast. Since most of our production and of our selectees are in the East, this will mean a much longer land transportation movement. These considerations are very important in determining what the railroads will have to do in the next few years. Also during the hectic war days which are ahead, we are bound to have lower efficiency. That is unavoidable; when movements are very extensive and of a highly emergency character, and when such movements are imposed suddenly, one does the things that are necessary at the moment. The railways will be called on for more effort, and, unavoidably, there are some circumstances that will lessen their overall efficiency.

We are told that the hours per week that will be worked will be longer. That will tend to increase the capacity of plants. However, it may not increase it enough to make as much difference as would appear at first blush, because no more can be transported than can be consumed of raw materials.

We do not yet know whether the raw products supply will call for more transportation than the civilian supply which will be curtailed.

Must Maintain Railway Plant

The policy of maintaining our present railroad plant must be carried through without curtailment or interruption, Mr. Budd said. Our policy, from the beginning has been to use as small an amount of materials as transportation can get along with.

Before this emergency arose, Mr. Budd estimated that a 10 per cent increase in traffic for 1942 over 1941 would probably be a good estimate, but he now believes that 10 per cent is too low, and that efficiency will be more difficult to maintain, although every effort will be made to maintain that efficiency on all civilian movements.

Mr. Budd also stated that the railways are going to need a great deal of rail. He emphasized that this cannot be held down to the minimum of the depression years of 1932-34 with safety. He then referred to the transverse fissure rail detector car as an aid in carrying old rail in service safely and stated that the completion of seven of these detector cars has long been delayed by the inability to get some 7,000 lb. of copper.

Mr. Budd summarized the things that should now be done, as including (a) the acquisition of new equipment with the minimum expenditure of men and materials, (b) the distribution of orders among builders to develop the maximum output of the car building plants, which he fixed at about 168,000 cars a year, (c) the ironing out of seasonal peaks in traffic, and (d) the reduction of essential rail inventories, made possible by the use of detector cars. Other matters to consider, he said, include changes in specifications to include critical materials and standardization of equipment. The railroads, he said, have already agreed on a minimum number of standard types of cars and have also agreed not to introduce any new types of cars or locomotives during this emergency except as special types are necessary to handle war material.

Eastman Offers Suggestions

Following Mr. Budd, Joseph B. Eastman, chairman of the Interstate Commerce Commission, said that adequate maintenance is essential to efficient railroad service, and that is essential to national defense. The problem is to determine the amount and character of material which will be necessary for adequate and frugal maintenance.

The railroads are put on their honor to submit conservative estimates. That includes possibly the sharing of stock by some railroads who have been fortunate in building up large stocks of materials.

Speaking of prospective railroad traffic, Mr. Eastman said that it is suggested that experience has indicated that total traffic will increase much less rapidly than expected because the expansion of defense traffic has been and will be offset by contraction in civilian traffic, and hence, that the prospective total traffic will not be realized.

Mr. Eastman said that there will be need for all possible improvement in operations, in addition to the new equipment proposed by the railroads. If the railroads, he continued, find themselves unable to do all that is necessary, embargo and priority orders can be enforced by the Interstate Commerce Commission but this practice should be avoided because the results might be demoralizing if normal commercial and industrial pursuits are interrupted.

The allocation of steel plates, of which there is an especial shortage, will be handled, according to Charles E. Adams, of the OPM, by the Allocation section of the OPM and when a situation becomes acute, it will operate on a total allocation basis. The railroads, he continued, will get more plates in December than at any time during the last four months. At the present time they are asking for 155,000 tons per month and are getting 108,000 tons. The country will need 800,000 tons of plates per month and to produce this amount every type of mill with a plate roll must be used.

Continuing, Mr. Adams stated that the business of one company was transferred to another to relieve the situation and increase the amount of steel going to the railroads. He added that the OPM is interested primarily in seeing that the war services get the material they require and after that to assist companies in getting materials rather than allocating them. So far as the railways can get their materials without allocation, the government does not want to take over this task.

In the discussion that followed, representatives of locomotive builders and other railway supply companies stated that they are prepared to deliver the equipment

required by the railways if the materials therein are allocated in time.

In concluding the conference, Mr. Stevenson stated that the OPM had not received the co-operation from the railroads in maintenance of way problems that he thought it should have received. "We are all at sea," he said, "as to the railroads' requirements for next year. We want to secure what is necessary. We know that there will be certain increased demands for maintenance, but we cannot engage in goldplating our railroads. We cannot understand the figures that have been furnished us. This matter should have the thoughtful, attentive and careful consideration of the railroads."

Causes of 1941 Accidents

DETAILED reports on a total of 57 accidents occurring this year and investigated by the I. C. C. (January 1 to October 3, inclusive) have been issued to date. As a result of these accidents 66 persons were killed (including 5 revenue passengers) and 840 were injured (including 675 passengers). Some 30 of the accidents involved one or more passenger-carrying trains.

It is impossible to arrive at any valid comparison of this group of accidents with a group of any previous period. The Commission investigates a relatively small number of the total accidents reported for any given period and its selection of those for such treatment is based on variable considerations dictated by "the public interest." Even a comparison of investigated accidents occurring in successive years is faulty, since one serious accident may unduly inflate the total casualties of one period.

However, to gage the significance of the year's accidents thus far investigated and reviewed by the I. C. C., it might be pointed out that the Commission's Bureau of Safety investigated 67 train accidents for the year ended June 30, 1940, involving 140 persons killed and 1,348 injured. This casualty total is substantially above that involved in the 57 accidents investigated thus far in 1941. As a matter of fact, several very serious passenger train accidents in 1939 and 1940 contributed exceptional casualties totals to the list for those years which make the accidents covered in 1941 seem pale by comparison.

Table I—Classes of Investigated Accidents in 1941

Derailments	24
Head-end Collisions	13
Rear-end Collisions	12
Side Collisions	6
Collisions with Highway Vehicles	2
	57

Nevertheless, the public is currently reading accounts of train derailments and accidents almost daily and a number of readers have requested that the *Railway Age* analyze recent accidents, briefly noting basic causes and indicating trends, if any are detectable. Table No. 1 breaks down the 57 accidents investigated in classes while Table 2 classifies the attributable causes of the accidents into rather broad categories (our own—not the I. C. C.'s). In the latter table the "No. of Accidents" will not add up to 57, since the I. C. C. investigations attribute more than one cause to a number of accidents, each of which is accounted for in this table.

Table No. 2 shows that negligence of employees contributed to 43 of the 57 accidents—or 75 per cent. Of the 67 accidents investigated by the Bureau during the 12 months ended June 30, 1940, 44—or 66 per cent—were attributed wholly or in part to employee negligence; while of the 87 accidents probed during the year ended June 30, 1939, 45—or 52 per cent—were attributable to negligence of employees.

As compared with these periods, 1941's accidents show a marked increase in collisions resulting from failure to obey meet orders or to clear time of other trains, while violations of Rule 93 (covering occupancy of main track within yard limits and speed of train within such limits) have declined to some extent.

It should be noted that of the accidents attributed to management, two were caused—according to the Bureau—by signals spaced too close for safe operation of freight trains at high speeds. In the case of one, it is claimed that more "AB" brakes on the train would have helped the situation. In 12 of the investigations (involving accidents from failure to flag or obey meet orders), the Bureau recommended that the railroad involved establish a more satisfactory block signal system and in several cases, issued a "show-cause-why-not" order.

Table II—Causes of Reported Accidents

Factors—Inclusive or Partial	No. of Accidents
NEGLIGENCE OF EMPLOYEES	
Failure to Flag Properly	7
Failure to Obey Signal Indications	9
Failure to Obey Meet Orders	10
Excessive Speed	6
Failure to Control Speed Properly in Yard Limits	5
Error in Issuing Clearance	2
Angle-Cock Partly-Closed	1
Failure to Control Speed Following Preceding Train	1
Failure to Protect Track Car	1
Switch Improperly Lined	1
NEGLIGENCE OF MANAGEMENT	
Signals Improperly Spaced	2
Operating Rules Not Made Understandable	2
MECHANICAL DEFECTS	
Faulty Air Brakes	1
Broken Wheel	1
Failure of Trailer-Truck Spring	1
ROADWAY DEFECTS	
Kinked Track	1
Spring-Switch Failure	1
Broken Rail	2
Irregularity in Track Surface or Alinement	2
FACTORS BEYOND RAILROAD CONTROL	
Sabotage	1
Slides or Washouts	4
Obstruction on Track	2
Highway Vehicles	2

* * *

Mail Is Transferred Between the Daily Trains on the New York Central's Catskill Mountain Branch and the Delaware & Northern at Arkville, N. Y.

An All-Cargo Plane With a Capacity of 3,000 lb. of Express Shipments, Was Operated Successfully by the United Air Lines Between New York and Chicago from January 1, 1941, to March 1 When, Due to Increased Passenger Demands, It Was Returned to Combination Passenger-Cargo Service. This All-Cargo Douglas DC-3 Mainliner Was Operated Non-Stop

Courtesy United Air Lines

Warns Railroads Against Coming Air Freight Competition

Get into picture now to guard against loss of traffic, is advice of General American's president, Lester N. Selig

A FORECAST of gigantic air freight operations after the war which will create chaos in transportation unless controlled, and a plan whereby the railroads can participate in co-ordinated air-and-rail service are included in "A Brief Study and a Plan for the Participation of the American Railroads in Air Freight Operations in the United States," prepared by Lester N. Selig, president of the General American Transportation Corporation and associates. Definite action should be taken by the railroads for four reasons, according to the study, which is abstracted below:

(1) "The airlines collectively and perhaps individually will have cargo planes in the air in a comparatively short time. However economically unsound this may or may not be from a commercial point of view, the fact remains that an immediate competitive situation will be developed in which the railroads, although their business is again being taken away, will have no interest. The time is now ripe for co-ordinated action on a grand scale. The government, it is believed, will approve a broad nationally-co-ordinated plan for freight operations because of national defense and the needs of the times. The railroads have a real place.

(2) "Individual interests will try to develop operations which will have a demoralizing effect politically and commercially on the whole broad picture. There is evidence of this now, as exemplified by the Seaboard and Kansas City Southern applications for certificates. It might be stated here that individual interests which try to attempt limited operation will be doomed to commercial failure or will seriously interfere with the proper development of air freight, and will give the country a recurrence of what happened in the development of the railroads, namely, uneconomic duplication, expansion, failure and then contraction. In the meantime, the industry and the public will suffer.

(3) "The present system of handling air freight is unsatisfactory from many points of view, but particularly commercially. It will become ingrown and will tend to start this great industry off with definite disadvantages of being expensive and hard to handle and may give it an unpopularity that will take a long time to overcome by the new interests which must operate from a much different basis and philosophy than the present system. In other words, the present system, if continued, will give any new set-up certain disadvantages to overcome from the viewpoint of public good-will and acceptance.

(4) "Assuming the correctness of the above, another principle is involved, namely, that there must be uniformity of service; that is to say, all the present interests that can contribute to a broad nation-wide industry should participate and those interests that could best work out this broad, comprehensive plan are—(1) All the existing airlines, (2) All the existing railroads, (a) The Railway Express Agency."

Although this study indicates that there are several general plans which might work, including the owning and operating of cargo ships by the railroads and a con-

tractural set-up for actual participation in the shipment of air freight through the co-ordination of all freight and airline operations, it advocates, as most practical, the immediate formation and stock ownership of a joint air freight company by all the airlines and all the railroads in the United States. Under this plan, the railroads and the airlines would furnish their services to the new company at cost and take their profits through the medium of the new company.

The initial function of the new company would be one of investigation rather than immediate action, the plan sets forth. The company would start with as small an organization as possible but large enough to embark upon the following program:

(a) Make cost studies of air operations with the new type of plane so that actual costs of operations can be determined definitely.

(b) Determine actual ground-gathering costs.

(c) Allocate present railway traffic to air freight.

(d) Set up an operations division which would co-ordinate the entire movement of air freight by setting up schedules.

"The first two cost studies would be comparatively simple," the study continues. "The third step would be one which the railways should make themselves, along lines laid down by the air freight organization. It would require that the railways examine all of their present high-speed freight to determine what portion of it could be handled most efficiently and economically by air freight. A reasonable formula could be worked out in this as in other phases of this whole operation, and the initial move would have to be handled by all concerned in a broad give-and-take spirit. Flying schedules would have to be worked out and tariffs would have to be somewhat experimental at the start. The whole approach to starting an enterprise as big and widespread as this will have to be evolutionary, based on sound investigation and research.

"The business basis of this plan has its background in the Railway Express-airline hook-up, but it is only a background. This plan contemplates the railways turning over to the airlines immediately that portion of their traffic which studies will reveal will go to the airlines anyway. This will put the railroads in an excellent bargaining position versus the airlines. When the airlines start cargo ship operations, they must realize that ultimately the railroads will take action to retain their traffic. This will result in a competitive situation which ought at all costs to be avoided by everybody. Under this plan the railroads will offer off-airport handling, solicitation and their experience in traffic distribution, and they will be contributing that which is most necessary for the airlines, namely volume.

"In other words, the railroads would be adding to their present facilities a new mode of transportation which would be profitable to them. They will offer air freight as part of their latest service. The airlines will gain immediately that volume that they could otherwise gain only through years of intensive effort under costly competitive conditions."

Should Use Express Agency as Ground-Gathering Agency Only

"Some railroad executives may feel that the ideal way to handle this situation is through the Railway Express Agency, but there are many reasons why this should not be done. This new industry must be handled by a youthful, forward-looking, pioneering group, as a matter of general underlying philosophy, and the Railway Express Agency, with all due respect, is not such a group. It is a tried organization that works in traditional ways. Its personnel is trained along different lines from that which is proposed and would be the wrong selection to carry through a development of this kind. The railroads' interests would not be well served. Too, the Railway Express Agency should be merely the agency for ground-gathering and ground-distribution of air freight—that and nothing else—and its costs must be studied and reduced. Air freight direct ground-gathering and distribution costs, if properly handled, will add no special overhead burden to the present set-up of the Railway Express Agency. On the contrary, it should tend to reduce whatever overhead burden they now have, and a real study of costs by competent people should and, in our opinion, will reveal that ground-distribution and ground-gathering costs can be reduced.

"The many inter-relations with the airlines would be handled more efficiently and speedily by a new group. Finally, and in conclusion, it is urged that the Railway Express Agency be merely a ground-gathering and ground-distributing agency. Such competent personnel as they may have should and would, of course, be worked into the new set-up but the Railway Express Agency as it now exists would be a fatal selection to lead any air freight project.

The Railroads' Problem

"The first question for the railroads to answer is one of broad philosophy—should the railroads enter this field? It should be decided in the affirmative for the reasons following:

"1. It will be a long step towards a co-ordinated transportation system.

"2. It will benefit the railroads from the viewpoint of public goodwill by reason of the spirit of progressiveness shown in this move.

"3. It is believed that the new tariff set-up may create a healthy precedent for the railroads in the establishment of a simple yet flexible tariff.

"4. It will bolster railroad credit because the investing public will feel that, instead of more freight being diverted from the railroads, the railroads will have an interest in hauling freight this way.

"5. It is a necessary defensive move on the part of the railroads to help retain such profits as they have in their present industry.

"6. It is a good offensive move on the part of the railroads to obtain part of the profits of a new industry.

"It should be understood that reference to the railroads' participation in this activity means the railroads acting together as a group. There is no place and can be no place in this picture for individualism, because no individual railroad can make a success of flying air freight itself, and there are many other good reasons which need not be set forth here.

What the Railroads Should Do

"The railroads should immediately appoint proper representatives to work out with the airlines the plan proposed above. Here again it is not merely a matter of opinion that such a plan would receive very serious and probably favorable reception by the airlines. If these negotiations fail, which again in our opinion is extremely doubtful, the railroads should, through the A. A. R., make definite plans to fly air freight along the lines of their rails, in their own cargo ships, and with their own airline personnel. In filing their application, in addition to the usual data required by the C. A. A,. the railroads should point out:

"1. That they wish to participate in the hauling of the freight which they now handle and that it would be inequitable to give the airlines a monopoly on the freight which is now being handled by the railroads and which they together could handle so much more efficiently in the public interest. What is meant is that with the railroads, the airlines and the express agency working together, the comprehensive air freight system needed in this country can be put into being more quickly and without any monopolistic feature because a fair segment of the public would really own this project through its security interest in the existing airlines and railroads.

"2. That it would be unfair to the railroads to permit another group (the airlines) to preclude them from handling the freight they now handle, merely because of a different method of handling. In other words, as a matter of equities why should not the railroads be allowed to duplicate the airline facilities if the airlines do not want to co-ordinate these operations with the railroads? The civil aeronautics authority should be urged to co-ordinate the two interests but in no event should the railroads be eliminated.

"3. That they would have two important arms for a broad nation-wide service, namely, the ground-gathering and distributing facilities and the potential business-getting facilities; they would lack only an air operating organization which could be acquired probably more quickly than the airlines could acquire and put into smooth operation both ground-gathering and distributing systems and a business-getting organization, so that in all fairness the railroads are certainly in as good a position to fly freight alone as the airlines are. But this is all academic or conjectural. The sound way is to co-ordinate the two.

"In other words, while the application is one that seeks to get permission for the railroads to fly their own air freight, nevertheless by indirection it should also point out and urge upon the C. A. A. that a co-ordinated plan is in the public interest. It is firmly believed that the railroads will not have to go that far, but that the airlines will cooperate on a mutually fair basis.

Advantages to the Railroads

"What are the advantages to the railroads of going into this new business? There are three answers:

"1. The business of handling air freight will be profitable.

"2. (a) Without wanting to stir up the old controversy of the value of l.c.l. freight for the railroads, a great part of this freight will be lost to the railroads, with hundreds of planes flying around this country, each carrying 10 to 20 tons of merchandise.

"(b) As the volume of air freight increases it may have a tendency to cut into the railroads' general business and from a defensive point of view, if from no other, the railroads should work for the best economic interests of the shipping public and themselves. Where it is economically sound to ship by railroad that service should be used and conversely where it is economically sound to ship by air that should be done. This can only be done if the railroads are in the picture. However, freight is going to be shipped in the air—witness the shipping of tanks and heavy cannon to Norway by the Germans—and the railroads should be in the broad position of helping to distribute the freight of this country in a coordinated way in the best interests of the airlines and themselves. They cannot possibly do this outside the picture. Working from the inside, conditions will be different.

"3. We believe that in this country the tendency is toward a coordinated transportation system; that is to say, highways, railways, waterways and airways, each in its respective sphere and each working with the others for the common interest of all. No finer opportunity has been presented for a start in coordinated transportation in this country than in this present situation wherein railways and airways can get together on an efficient, practical and profitable basis, each having something to contribute to the other.

"4. Whatever may be said as to the cogency of the above reasons, the fact remains that the disadvantages to the railroads in not assuming their natural responsibility in the situation are so great and so grave as to require little further comment. In other words, the railroads must consider this a defensive move, but, fortunately, one which should be profitable to them. The railroads have already had experience with loss of passenger traffic. There is no excuse for a repetition of this experience in freight operations.

"The development of airplane construction has reached the point where an all-cargo airplane, generally similar to passenger airplanes under construction, can operate at airport-to-airport tariffs of ten cents per ton-mile. It is a corollary of airplane economics that the larger the cargo plane the less the ton-mile cost. Douglas Aircraft is building a plane for the United States Army that is twice the size of the largest present passenger plane. This means that ten-cents-a-ton-mile tariffs are really only scratching the surface of eventual tariffs.

"Further, airplanes fly in a straight line. Therefore, ton-mile costs are not a fair example of comparison—since a package weighing one-half ton, if moved by rail from New York to Chicago (900) miles, would show 450 ton-miles, while if moved by air the distance would be only 750 miles, or a total of 375 ton-miles by air.

"The airplane threatens the railways not only from the standpoint of cost, but also from a great superiority in speed. Cargo ships will soon be in the air, flying at 220 miles an hour, with a speed of 350 miles an immediate and probable goal. In contrast, railway express moves at 40 miles per hour, manifest freight moves at 36.5 miles per hour, and regular freight moves at 24 miles per hour.

"Initial cargo ships will have a size of approximately 3,000 cu. ft. and a capacity of approximately 10 tons. Within five years ships of a size of 6,000 cu. ft., with 20 tons capacity, will be on the factory jigs or in the air. In comparison, the average freight car capacity for 1939 was 36.8 tons and this includes some bulk shipments which will never conceivably be hauled in airplanes. The average size of freight cars is approximately 3,000 cu. ft.

"Cargo airplanes then are really flying freight cars and compare favorably with freight cars from the standpoints of size, capacity and loading facilities.

"Primarily airplane operation lacks mobility. Today scheduled airlines operate in and out of 215 airports; this number is increasing rapidly. However, it is impossible to envisage a large air freight movement for a long time to come that does not tie in with the present railway set-up, unless perhaps the airlines hook-up with the trucks for their off-airport needs. A joint airline-truck freight hook-up would be certain disaster for the railways. Today, 30 per cent of all air express shipments have a partial rail haul. The importance of the possibility of an airline-truck hook-up should not be underestimated.

Broad Economics of Air Freight

"We know that the present set-up is so expensive that, except for a few commodities, the public is not using air express or freight except in emergencies. We also know

that unless the traffic volume grows and is handled in planes especially designed for lowest ton-mile costs, the rates cannot be reduced substantially to obtain the necessary volume to make the business really profitable. Nevertheless, it is our definite conviction that the right type of cargo plane can be developed and put into operation and that if these planes are kept reasonably busy the resultant traffic, even though carried at rates substantially reduced as compared with the present airline rates but still higher than rail rates, will earn some profit.

"We again emphasize that the railroads own the best ground-gathering facility for a national system of air freight and that they have potentially, although not yet actually, the best opportunity, from the viewpoint of present contacts, personnel and experience, to develop air freight business, owing to their familiarity with sources of traffic and their experience in handling and developing rates. The airlines would have to start from scratch on this phase of a national airline operation.

"To these reasons must be added the most important fact that this industry will be profitable in itself, and if the railroads do not participate in one way or another, serious inroads will be made not only in their express and LCL business, but also in their general business. The railroads are still the most important freight gatherers and distributors in the country. As such, in spite of ICC action with regard to trucking, they are entitled collectively to a place in the air freight picture and to derive profits therefrom. Certainly, if the railroads should cancel the present airline contracts, as they can do on reasonable notice, it would set the airlines back many months, possibly a couple of years, if they were to proceed without the railroads and the express company in the prompt development of air freight in this country, assuming that the airlines wanted to go on their own.

"It is also a fact that with and through the railroads, sources of air freight can be tapped and a traffic organization can be built more quickly and more efficiently than if the airlines were to start from scratch.

"These points are mentioned because of the necessity to get into general operation promptly, because throughout this memorandum the whole idea and intent is to put into being an organization that will, within the next two years, be able to initiate an air freight service through the existing airlines, the Railway Express Agency and the railroads as a unit that will eventually become the great air freight system of the entire United States. No one person, no one group, including the airlines themselves, can launch this movement so that in the end it will be sound commercially, unless it is done slowly and on the proven ground of research and evolution and with consideration of all the factors of public interest.

New Air Freight Tariffs

"A system of tariff-making will have to be devised with flexibility as its cardinal principle. Nothing is more intricate than a set of tariffs as we generally have known them, and before ultimate success will be achieved long studies of tariffs will have to be made with airline operation and railroad tariff experts, in co-ordination with executives of the air freight agency. It is entirely possible (and may be of real value to the railroads in ordinary railroading in the future) to evolve a simple and flexible set of tariffs for air freight that will make air freight comparatively cheap for the shipper and easy for him or his traffic managers to understand and use. It is entirely possible that tariffs West-East, where the flow of traffic is much lighter, may be put on an entirely different basis than those of East-West.

"There may be many different classifications of shipments from small centers on a different or deferred basis (deferred in the sense that it would still be many times faster than the railroad, etc., but not as fast as the fastest air express) which might have to be put into effect in order to gain volume and, finally, there might be bargain tariffs for special periods or days. Tariffs should be kept flexible in order that they may be made to suit the exigencies of particular types of shipments and to suit the contingencies that might arise in any good field of merchandise shipping. This would require the long study and collaboration of experts and would finally be a system that would go a long way toward getting public acclaim or approval in that it would make it easy, flexible, and, we believe profitable for the general shipping public to use air freight where it is economically sound. There is no doubt that wide flexibility in tariffs could be worked out in a new set-up such as this with either I. C. C. or C. A. A. (Department of Commerce) approval and, from the viewpoint of the long future it may have a definite bearing on a simplification and flexibility of railroad traffic rates, which might well inure to the benefit of the railroads from the viewpoint of railroading alone."

Communications . . .

Chief Clerks Seek to Promote Railroad Welfare

ATLANTA, GA.

TO THE EDITOR:

The railroad chief clerk is neither an employee of the rank-and-file, nor yet a railroad officer. But he is close enough to both groups to understand their problems and their points of view.

Assuming that "it is facts that bind men together," and only misunderstanding and error which divide them, the chief clerk seems to be in a strategic position to aid in the wider dissemination of economic information about the railroads—and particularly that bearing on their competitive position.

Such facts are made common knowledge by direct personal contact more readily than by published statements. Railway officers cannot carry on such educational activities effectively—for one reason because everything they do or say, to some degree at least, involves an official commitment of their company. The private personal contacts of those not in the official category are not so handicapped.

Some of us chief clerks believe that we, and others occupying similar positions on other railroads, stand in a unique position for possible service, both to the railroad industry and to the protection of the jobs of railway workers. But we need to have more and better information than is now available to us, and we need more contact with each other. For that purpose, *and that purpose only*, we have organized the Railroad Chief Clerks' Association of America—and we invite all chief clerks to join us.

The Chief Clerks' Association is not, nor will it become, a labor organization. It is not organized to "get something" for itself. It is not even interested in a national program. Our plan follows "state's rights." There would be a separate council in each state, the members of which would be expected to keep in close touch with the railroad association in that state—both to secure information regarding legislation in which chief clerks and other railroad men have a proper interest, and to assure that the views of the chief clerks and those of their employing companies would never be out of harmony with each other.

The chief clerks are loyal to the railroads, and it should be advantageous to the carriers that some vehicle be provided through which their loyalty, their public and private contacts, and their intelligence could find concrete expression. We believe the Chief Clerks' Association provides such a vehicle. If effort of this kind is as effective as we believe it will be, the chief clerks will be recompensed—not by demands on their employers

—but by the general recognition which will come to them throughout the industry for the value and intelligence of this "extra-curricular" activity, in the protection of the legitimate competitive strength of the railroads. The Association charges no dues—but depends upon voluntary contributions to defray incidental expenses.

With the St. Lawrence Seaway and other gigantic waterways an immediate menace, with airplanes threatening to become, after the war, as strong "pick-and-choose" competitors for high-grade long-haul freight as the trucks have already done in the short-haul field, with a 50-billion-dollar superhighway program now being actively planned—it seems to us that this effort to provide cohesion and common purpose in the railroad industry cannot fail to win the support of all loyal and intelligent railroad people. We invite further inquiry from all properly interested persons.

HARRY H. WARNER,
Executive Secretary, R. R. Chief Clerks Assn.,
P. O. Box 282, Atlanta, Ga.

Alaska Highway and St. Lawrence Waterway

YORKTON, SASK.

TO THE EDITOR:

Some time ago a correspondent wrote in your columns (*Railway Age*, May 17, 1941, page 845 and September 6, page 381) protesting the United States footing the bill for an Alaska highway through Canada. Since the United States has been attacked by Japan it is, perhaps, an opportune time to comment on the Alaska highway subject and also on the St. Lawrence waterway.

Japan's vulnerability is in the case of civilian bombing operations based on Vladivostock. That Siberian city is closer to Prince Rupert, B. C., than any other Pacific coast port. Even if it is necessary to ship material via Alaska and the Aleutian Islands, the quickest route is via Prince Rupert.

It was a tragedy of the former Grand Trunk Pacific that commercial interests would not use Prince Rupert for Asiatic shipping. Paradoxically, vessels leaving Vancouver come almost as far north as Prince Rupert, I am told, before turning westward to the Orient. That port seems to have been neglected as much as was the site of the American built port of the last World War—St. Nazaire, France.

If it be necessary to build a thoroughfare through Canada to Alaska, I submit that the survey for a railroad north from Prince George on the Prince Rupert line of the Canadian National could be used. That survey heads for the north end of the Peace River district.

The cost data used when Vichy France decided to build the Trans-Saharan railway instead of a Trans-Saharan highway should be ample proof of the futility of an Alaskan highway.

When we note how swiftly Japan struck it is patent that a St. Lawrence waterway would just make a vulnerable point on the map of Quebec, Ontario and New York, if for no other reason than the railways in that territory deprived of traffic could not maintain their railways at the standard of efficiency now possible.

J. L. BIRKERT.

Railways in Air Transportation

SANTA MONICA, CAL.

TO THE EDITOR:

The largest aircraft factories are located in Southern California and their output accounts for the large proportion of the planes built in the United States. There is a lot of talk about what these immense plants are going to do when the war is over, and well-informed persons freely predict that air transportation is to be developed. I have been wondering if our railroad managers realize that they will have to face a new form of competition.

I believe that in the not far distant future all mail between our large cities will go by air. All express also, and while it may seem fantastic, huge tonnages of freight will move by air. This has grown to large proportions in South America, and our Army is now transporting heavy machine parts by air. Passenger traffic by air will develop rapidly when war is over.

It is generally admitted now that the railroads were too slow to take the steps necessary to forestall truck and bus operation by private concerns, and their failure to operate their own truck and bus lines lost them a huge volume of business, freight and passengers.

They will soon have to meet this new air development, and I am wondering if plans should not now be made to operate their own air service for mail, express, freight and passengers, especially when one thinks what an array of articles can and will be distributed by air—citrus fruits from California and Florida, canned goods, perishable foods, meat, poultry and dairy products, clothing, shoes, hardware, leather goods and scores of other articles.

A big Douglas B19 landed here today, carrying a load of 17 tons, exclusive of gasoline, oil and crew. In a few years, one will see hundreds of these flying box cars in service; hence, the importance of the railroads developing and operating their own air ships. As General Forrest once aptly said, "He wins who gets there furstest with the mostest men."

RALPH K. WEBER,
Former President, Mt. Vernon Car Manufacturing Company

Would Have Ticket Coupon To Cover Red Cap Service

E. ORANGE, N. J.

TO THE EDITOR:

For several years now I have noticed the almost constant strife over the question of wages for the red cap. I have heard of the schemes for paying him, and I am familiar with the present setup.

As a passenger, I think that the present system is objectionable in the extreme, particularly to the customer. It is no prize for the railroads either, and I'll bet the red caps aren't too enthusiastic about it either. There are so many things wrong with it, that I fail to see how any sensible people could conceive of such a system and expect it to work.

If the railroads were to read this, they would probably be saying, "Well, smart guy, just how do you propose to solve the problem?" My reply to that remark would be that the solution is already in operation on the railroads, but not to pay red caps. I refer to the system by which it is possible for a passenger to purchase a ticket over two or more railroads, with his taxi-fare paid in advance between the terminals of the two lines at some intermediate point. As you know, the ticket, for instance, will have three coupons, one for the originating line, one for the taxi company and one for the delivering road. If the passenger doesn't want to go by taxi, or goes by some other means, that is just too bad.

I think that red cap service could be handled in the same manner. Each ticket sold for a distance of more than 100 miles or so, would have added to the cost 10 cents for each originating point, each transfer point and each delivery point where red cap service was available. Each originating coupon would bear two spaces marked "R" (like the ones for baggage-checking), while each other coupon would bear but one. Red caps would then have sealed punches to punch the "R," their pay being determined by the number of punches collected. People without these tickets would pay a flat fee of say 10 cents.

Due to the fact that not all of the "R's" would be punched, the railroads would have a surplus after paying the red caps. This would reimburse them for the clerical work involved. I doubt if any passenger would object to the extra cost, when such is included in the overall cost of the trip, but he does object to having to dig in his trousers at every terminal, while feeling like a piker if he doesn't use the present complicated service.

Under the system outlined above, red caps would render better service, because they would know that almost every passenger would use their service, and they would have infinitely more assurance of a day's pay, limited only by their physique and the traffic density. Like taxi and baggage service, if the passenger didn't want the red cap service or had no bags, that would be just too bad.

ROBERT A. LE MASSENA.

NEWS

Court Says "No" To O. C. Merger

Judge disapproves mandatory purchase of Old Colony by New Haven in I. C. C. Plan

". . . . I should consider a management improvident which paid $12,000,000 for a property producing a deficit of upwards of $600,000." So does Judge Carroll C. Hincks of the federal district court at New Haven, Conn., characterize the proposed mandatory merger of the Old Colony with the New York, New Haven & Hartford in an opinion disapproving in part the pending plan of reorganization for the New Haven promulgated by the Interstate Commerce Commission. As was reported briefly in last week's issue of *Railway Age*, the Judge disapproved those portions of the plan regarding treatment of the Old Colony, the Railroad Credit Corporation and bonds of the Housatonic, Central New England, Boston & New York Air Line and New England railroads and recommended a change with respect to the Boston & Providence. Subsequent to the release of a summary of the opinion then in hand there has been received the entire 108-page opinion, which deals chiefly with the O. C. and B. & P. proposals.

The chief objections of Judge Hincks to the plan's provision for the Old Colony are that (1) it imposes an involuntary merger upon the parties; (2) does not obligate any party to eliminate the deficits of the Old Colony; (3) sets a price to be paid for the property on "a scanty base"; and (4) discriminates against secured creditors of the New Haven.

(1) The Judge holds that it would be far better to go ahead with the reorganization of the New Haven separate from the Old Colony merger and recommends that the merger be the result of voluntary negotiations. In this connection he refers to, and reproduces in full, the report of a "compromise committee" of parties representing New Haven and Old Colony creditors and the state of Massachusetts, the "mechanics" of which, he declares "has great merit."

(2) The judge points out that while the Massachusetts authorities have permitted certain curtailments in passenger service on the O. C., reduced local taxes and permitted other savings, so that the deficit was "whittled down", there is no guaranty that this attitude will continue. He notes that the declared policy of Massachusetts is "to test the feasibility of any desired service by a common carrier on the basis of all the system resources available to the carrier." Should the New Haven assume the O. C. charter obligations the Department of Public Utilities could order additional services provided as long as the New Haven had "the financial ability to comply."

Expanding on this subject the Judge writes: "And the history of these very proceedings suggests that it was not until the public in eastern Massachusetts came to realize that its right to burdensome service and its power to impose taxes was subject to the practical limitation resulting from the dwindling state of Old Colony resources, that the cooperation which resulted in the economies listed above arose . . . Take the item of the 1940 tax reductions on Old Colony property. No one seeks to belittle the generosity of this voluntary and substantial contribution to the policy of making the Old Colony self-supporting. But if the taxes as reduced are below general tax levels for adjoining and similar property in the several communities affected, necessarily there can be no firm assurance that the reductions will remain permanent in the face of accumulating pressure for tax revenues, especially if the New Haven by taking over the Old Colony charter becomes permanently and directly liable for all taxes validly assessed."

The I. C. C. does state in its report on the plan that burdensome passenger service must be eliminated. But, Judge Hincks declares, "although the Commission seems to have recognized its power under the Bankruptcy Act itself to accomplish this essential element in a sound plan, it apparently deemed it the part of wisdom to leave it, at least in the first instance, to the Department of Public Utilities of the Commonwealth to accomplish in its own way the necessary reductions. Nevertheless, a present merger is proposed in advance of action on the part of the Massachusetts authorities." As for the provision of an "escape clause" in the plan [providing for a test period of passenger service to determine minimum losses therefrom], the Judge is of the opinion that "unless the proposed price [for the O. C.] can be justified without resort to the escape clause, it cannot be approved."

(3) Severance value [competitive value], which is the basis of the proposed price to be paid by the N. H. for the O. C., is seen by the Judge to work both ways, i. e., how much harm can an independent O. C. do to the N. H. *and* vice versa. The plan, he claims, considers only the severance value of the O. C. "Ought not the severance value of the New Haven to the O. C. receive equal consideration?" And

(*Continued on page 1060*)

Transport Board Gets Its Money

But is committed to making study of interterritorial freight rates

By making a commitment to undertake an immediate investigation of the country's interterritorial freight rate structure, the Board of Investigation and Research created by the Transportation Act of 1940 got from the Senate the additional $246,500 which had been requested for it by President Roosevelt but which the House committee on appropriations had failed to include in the Third Supplemental National Defense Appropriation Bill for 1942 as that measure was reported to and acted upon by the House. After the commitment was made by board members in testimony and in a letter to a Senate appropriations subcommittee, the item was included in the Senate version of the bill along with specific directions that the interterritorial rate probe be made and reported upon not later than June 30, 1942.

The conference report which was adopted by both the Senate and House on December 12 left the $246,500 appropriation in the final version of the measure, but removed the specific directions as to the interterritorial rate investigation. Nevertheless the board is understood to feel that it is still committed to making the investigation which can be done under general powers it has in addition to the specific assignments to investigate the relative economy and fitness of transportation agencies, public aids to transportation and the extent to which taxes are imposed upon carriers. The general powers further authorize the board in its discretion "to investigate or consider any other matter relating to rail carriers, motor carriers, or water carriers, which it may deem important to investigate for the improvement of transportation conditions and to effectuate the national transport policy declared in the Interstate Commerce Act, as amended."

In this connection, the board is understood to see an opportunity for a survey of the interterritorial rate question in its relation to the effect of rates on the movement of traffic, thus tying the matter into the general plan of the board's work. With respect to the commitment made to the Senate subcommittee it is pointed out that the hearings and debate on the appropriation revealed a feeling on the part of Congress, whose agent the board is, that the rate problem should be investigated.

(*Continued on page 1062*)

Non-Ops Settle Labor Controversy

Reach agreement on remaining issues in conflict on wages and vacations

Remaining issues of the labor controversy were settled this week when, at Chicago on December 15, a wage agreement was signed by the 14 non-operating brotherhoods and members of the Carriers Conference Committees representing Class I, II and III railroads and when on December 17, the referee for the vacation issue, Wayne L. Morse, handed down his award.

The wage agreement was signed at 7:30 a.m. after a continuous session which started on December 13 and at which Mr. Morse, chairman, Thomas R. Powell and James C. Bonbright of the Emergency Board acted as mediators. This agreement irons out several matters that have been in conflict, gives a basic wage increase of 10 cents an hour, with a minimum of 46 cents an hour and fixes a moratorium of 18 months on any national or regional attempt to change rules.

Under the agreement all hourly, daily, weekly, monthly and piece-work rates of the employees represented by the 14 brotherhoods will be increased the equivalent of 10 cents an hour, effective December 1, 1941. Rates of pay on guarantees for red caps will be increased 10 cents per hour, this amount will be multiplied by the number of hours paid for, and this sum will be added to the earnings of red caps, regardless of the method of determining their earnings, with the understanding that their basic minimum hourly rate or hourly guarantee shall not be less than 46 cents.

The increases in rates of pay for all employees shall not be less than 80 cents per day for each full time day of 8 hrs. In instances where an employee is worked less than 8 hrs. per day, the increase will be determined by the number of hours required to be paid for by the rules governing.

A minimum rate of 46 cents per hour is established and all piece-work, daily, weekly or monthly rates of pay after the increases have been applied, will be adjusted whenever necessary to this minimum. From this minimum it is permissible to make deductions for board, lodging or other facilities furnished the employee to the extent that such deductions were being made on August 31, 1941.

The compensation of employees covered by this agreement will be increased retroactively for the period from September 1, 1941, to November 30, 1941, at the rate of 9 cents per hour, except that in instances where employees were paid rates less than 36 cents an hour they shall be paid in addition thereto such amounts as may be necessary to make effective a straight time rate of 45 cents per hour during this period. Overtime hours will be computed in accordance with provisions of the individual schedules for all overtime hours paid for. Deductions or allowances made during this period for board, lodging or other facilities furnished the employees shall be unaffected and shall be retained as a credit by the carrier in computing retroactive payments.

All notices of changes in working conditions agreements served upon the employees on June 9, 1941, are withdrawn. Neither the carriers nor the employees will hereafter initiate a regional or national concerted movement to revise rules agreements for a moratorium period of 18 months from December 1. The moratorium does not include wage rates.

The vacation award provides that, effective with the calendar year 1942, an annual vacation of 6 consecutive work days with pay will be granted to each non-operating employee who renders compensated service on not less than 160 days during the preceding calendar year. Annual vacations with pay of 9 and 12 days will be granted to employees represented by the Brotherhood of Clerks, and the Order of Railroad Telegraphers, after 2 and 3 years of continuous service respectively.

Vacations may be taken from January 1 to December 31 and due regard, consistent with the requirements of the service, shall be given to the desires and preferences of the employees in seniority order when fixing the dates for their vacations.

The management may, upon reasonable notice (of 30 days or more, if possible, but in no event less than 15 days), require all or any number of employees in any plant, operation, or facility, who are entitled to vacations to take vacations at the same time.

If a carrier finds that it cannot release an employee for a vacation during the calendar year because of the requirements of the service, then such employee shall be paid in lieu of the vacation the allowance hereinafter provided.

The carriers will provide vacation relief workers but the vacation system shall not be used as a device to make unnecessary jobs for other workers. Where a vacation relief worker is not needed in a given instance and if failure to provide a vacation relief worker does not burden those employees remaining on the job, or burden the employee after his return from vacation, the carrier shall not be required to provide such relief worker.

The counter request of the Western Carriers made in May, 1940, for a 10 per cent reduction in rates of pay of certain employees is withdrawn.

In the presentation of the award Mr. Morse said, "The award is based upon the mediation record which the parties made at the Washington mediation hearings and at the hearings before the referee. It should be distinctly understood that it is not based upon the record which the parties made on the vacation issue at the formal hearings before the President's Emergency Board held in Chicago, September 15 to October 22. If this referee were to give any weight to the record made by the parties at the Chicago hearings before the Emergency Board, he would necessarily have to give full and complete weight to that record, with the result that he would repeat verbatim the recommendations which the Board made in its report of November 5, 1941.

"It so happens that this referee, as a

(*Continued on page 1059*)

Tax Loss Looms In C. & N. W. Plan

Debtor tells the appeal court I.C.C. revamp plan would hurt all creditors

The plan of reorganization pending for the Chicago & North Western would so reduce the capitalization on which taxes are based that the resultant net income would be subject to a total of $9,740,000 federal income taxes a year, as compared with $846,777 on the present company set-up. This is the conclusion set forth in the reply brief of counsel for the debtor railroad just presented to the Seventh Circuit Court of Appeals in an appeal from the plan of reorganization for the railroad approved by the Interstate Commerce Commission and the federal District Court for Northern Illinois (which would wipe out the present 181 million dollars of stock of the company and reduce fixed charges from 16½ million dollars to 3⅛ million).

In effect, counsel for the debtor take the position that although all but one class of creditors have voted favorably on the plan of reorganization, bondholders will actually be injured should it become effective, because of the tax factor. Says the brief: "The record fails to disclose that the Commission gave any consideration whatever to this tax matter in determining its plan of reorganization, nor did the court give any consideration to that subject. The rights of the creditors, who will become the new owners under the plan of reorganization here under consideration, require a change in the plan of reorganization in order to avoid destruction of property values and to assure the same tax treatment of the reorganized company as is given more fortunate railroads not compelled to invoke Section 77."

Elsewhere in the brief, counsel give a detailed statement of the effect of income and excess profits tax on (1) the present company; (2) the reorganized company on the present tax basis and (3) the reorganized company with the tax basis reduced in accordance with a recent informal ruling by the Bureau of Internal Revenue which would base taxable income on the new reduced capitalization. Basis of the calculations is $23,822,539, income available for fixed charges in 1941 (taking into account the recent wage increases). If (1) the present company were operating the properties and paying present interest charges of 16½ million dollars, the total income tax payable would amount to $846,777. If (2) the I. C. C.'s plan of reorganization were in effect—and the tax basis remained unchanged—the decreases in interest payments would expose the road to an income tax of $3,186,657. Finally, if (3) taxable income were further increased by the new basis for determining income embodied in the Bureau's ruling, a total income and excess profits tax of $9,740,000 would accrue. These computations are based on the assumption that the present rates of taxation will remain unchanged; any increase in rates of taxation would still

further reduce the amount available for fixed charges and dividends.

How would these taxes affect the disposition of available net income? Under condition (1), income would suffice to pay *present* fixed charges, 7 per cent on preferred stock and 3.04 per cent on common stock. Under condition (2), income, although the plan reduces fixed and contingent interest charges materially, would pay only 5 per cent on preferred and 2.24 per cent on common stock. Under condition (3) income would be available for only 1.13 per cent on preferred stock; nothing on common.

The brief emphasizes that, by reason of this tax factor, bondholders as well as stockholders would fare materially worse under the plan than they do under the present set-up, since they are given percentages of their claims in preferred stock. "The total preferred stock authorized under the plan is $106,996,076. We have shown that under the second basis of taxation, where the tax base is reduced to $323,000,000, there is available only $1,211,968, or a return of 1.13 per cent on this preferred stock; that earning is the equivalent of 5 per cent (the dividend rate authorized by the Commission) on only $24,239,360, thus wiping out $82,756,716 of the par value of the preferred stock, to say nothing of the common stock given to the creditors in the sum of $107,799,773, exclusive of $13,100,000, reserved for additions and betterments —a total destruction of creditors' allotted securities of $190,556,489."

The wage increase is considered among other factors in present income. The effect of the new wage rates is estimated to increase the C. & N. W.'s payroll for September 1 to December 31, 1941 by $2,168,000 plus $130,000 in payroll tax—a total of $2,298,000. Annually, based on 1941, the permanent increases effective December 1, 1941, would increase the payroll by $7,408,000, the payroll tax by $444,000 and the sum thereof by $7,852,000. To the extent that there will be sufficient taxable income to absorb these total costs, the increase in operating expenses produced by increased wages would yield a saving in normal income tax (at 31 per cent) of $2,434,000 annually.

The chief contention of the brief is that the I. C. C. has the duty to grant re-hearings and determine the facts as to conditions at the present time and revise the plan "in the light of these changed conditions"—specifically, much higher current revenues and the tax factor.

What kind of reorganization the debtor *does* favor is disclosed in the following paragraph: "The earnings of the debtor's estate in 1941 are ample to pay all of the interest requirements of its present creditors, and in addition to pay dividends on the preferred stock, and leave substantial earnings on the present outstanding common stock. No legitimate interest of the creditors will be injured in the slightest by a plan of reorganization that simply changes the form of interest from fixed to contingent, and preserves relative priorities among the various creditors. Under such a plan of reorganization the reorganized company would pay income taxes on the same basis as if it had not been reorganized and as would be paid by railroads not so unfortunate as to be compelled to file a petition under Section 77. The proceedings should be returned to the commission for a plan of reorganization substantially in that form."

Executive Order on Air Lines

President Roosevelt has issued an executive order authorizing the Secretary of War to take over air lines. The order, which paves the way for any action the Secretary may deem it necessary to take on the matter, was issued under the 1916 act giving the President authority to take over any system of transportation in time of war.

Transit on Livestock

The Interstate Commerce Commission has suspended from December 15, until July 15, 1942, schedules published in Chicago, Burlington & Quincy, Union Pacific and other tariffs, proposing to restrict the transit arrangements on feeder or stocker livestock, in carloads, stopped for sorting, sale or for trying the market at various points in the Western district and Illinois.

Pittsburgh Traffic Club Cancels Meeting a/c War Busyness

President John B. Keeler of the Pittsburgh(Pa.) Traffic Club has advised the *Railway Age* by telegraph that his organization has decided to cancel its annual dinner scheduled for January 22. The move is made "so that all affected can better direct their energies and efforts to production and transportation in connection with our war effort."

Club Meetings

The Car Foreman's Association of Chicago will hold its next meeting on January 12 at the La Salle hotel, Chicago, at 8 p. m. J. E. Mehan, assistant to superintendent car department, Chicago, Milwaukee, St. Paul & Pacific, Milwaukee, Wis., will discuss the A. A. R. Rules of Interchange effective January 1, 1942.

The Northwest Car Men's Association will hold its next meeting on January 5 at the Midway Club at 8 p. m. Mr. Mehan will present the discussion noted above.

I. C. Awards Diplomas

The Illinois Central, in recognition of the constructive efforts put forth by former workers who are now engaged in other occupations, is starting the distribution of diplomas to 1,200 former employees. Each certificate is individually inscribed with the name of the recipient, thus making him a member of the Illinois Central Alumni Association. The only requirement to receive this award is former employment with the company.

Car Service Division on 24-Hour Basis

General offices of the Car Service Division and the office of its Military Transportation Section, both in Washington, D. C., have been put on a 24-hour basis. This was announced by Car Service Division Chairman W. C. Kendall in recent letters which also indicated present requirements as to reports on troop trains and War Department freight which are to be made to A. H. Gass, manager of the Military Transportation Section.

Planes Do Not Halt Pacific Railway Club Meeting

Japanese planes, which were reported to be over San Francisco, Cal., and which caused a blackout for several nights, failed to halt the annual associate members' holiday entertainment of the Pacific Railway Club in that city on December 11. Several hundred members and friends attended the meeting which featured a "Gridiron Club" sketch that was written and presented by members of the club. The scene of the skit was a roundhouse foreman's office and the principal parts, which depicted humorous incidents and personalities on Pacific Coast railroads, were acted by George Skipton of the Westinghouse Electric & Manufacturing Co., Stephen G. Harwood of the American Locomotive Com-

How "Make-Work" Unionism Destroys Job

The LeRoy-Madison branch of the Missouri Pacific in Kansas is going. One train, with a crew of 5 men, has been providing daily service on the branch. Patrons who wanted service continued said they would be satisfied with a train 3-times-a-week—but this proposal was no solution, since the railroad would have to pay the crew a guarantee of 6 days' wages weekly.

The railroad sought to continue service on this branch by using a crew of reduced size—2 or 3 men instead of 5—but the firemen's organization would not consent to this branch train being operated without a fireman, nor would the trainmen's organization hear to its operation without 2 trainmen.

Thus, in trying to "make work" for 2 or 3 extra men, the unions have not succeeded in that attempt, but have instead killed 2 or 3 jobs which might have been saved. The customers on the branch have lost convenient service. The communities have lost tax revenues. Quite likely, the main line of the railroad has also lost the long-haul on some traffic which this branch formerly contributed (thereby curtailing the demand for main-line labor—clerical, maintenance, etc., as well as train service).

As Chairman Eastman said in a concurring opinion:

"It is a matter of great regret to me that . . . applicant's employees are unwilling to co-operate in a reduction of the expense of operating this branch line. Their attitude is, no doubt, a sign of the times, but it is harmful not only to the public but to themselves."

pany, and Joe Hummel of the Herbert G. Cook Company. In addition, a professional vaudeville entertainment was presented.

Preceding the entertainment, V. Villette, Pacific Coast manager of the Westinghouse Air Brake Company and chairman of the club's Associate Members Committee, urged the representatives of the equipment and supply companies to increase their cooperation with the railroads during the war, stressing particularly the necessity for the prompt delivery and servicing of orders. The club will carry on during the war and will provide programs that will be helpful to the railroads in meeting the military and industrial needs of the country.

S. P. & S. to Sell Stock to Oregon Motor Stages

An agreement was entered into on December 9, between the Spokane, Portland & Seattle and the Oregon Motor Stages under which the latter will purchase all the capital stock of the railroad-owned Spokane, Portland & Seattle Transportation Company and will merge the latter company with Oregon Motor Stages. The S. P. & S. T. operates bus service between Portland, Ore., and Seaside via the lower Columbia River highway and via the Wolf Creek highway.

G. M. & O. Affiliate Authorized to Buy Bus Line

Reversing the finding of its previous report in the proceeding, the Interstate Commerce Commission, Division 4, has authorized the Mobile & Ohio Transportation Company, affiliate of the Gulf, Mobile & Ohio to acquire control of the St. Louis, Red Bud & Chester Motorbus & Service Corporation through purchase of capital stock. Motorbus has been providing train-connection service for the G. M. & O. at St. Louis and the railroad plans to extend those coordinated operations.

A. A. R. Abandons Refrigerator Car Policy

The Car Service Division, Association of American Railroads, has cancelled its circular of May 5, 1939, wherein there was outlined the policy which reserved for railroads the right to furnish railroad-owned or railroad-controlled refrigerator cars for shipments of fresh meats, packinghouse products or dairy products. The policy, which is now abandoned because of "existing conditions," has never been in force, the effective date of the May 5, 1939, circular having been postponed from time to time.

Warehousing Survey

A comprehensive country-wide survey of public warehouses has just been completed, Ralph Budd, defense transportation commissioner, announced on December 12.

The survey, made by the Bureau of the Census, at the request of the Warehouse section of Mr. Budd's office, lists public storage space by geographical division, by states, and by use, both on and off railroad sidings, from information received from 2,761 companies operating 5,140 storage buildings, with a total storage capacity of 148,473,000 square feet.

The survey was made primarily of public general merchandise and household goods warehouses and did not include private warehouses, merchandise brokers, transient-freight terminals and warehouses used exclusively for cold storage purposes and agricultural products, with the exception of some cotton warehouses in important port cities.

Of the total storage space surveyed, 111,061,000 square feet, or 74.8 per cent were occupied as of July 1. However, it was pointed out that a day-to-day check of vacant space could be made by telephone by the Transportation Division should the need arise, thus making available immediately information on space facilities to the Army and Navy or other Government procurement agencies.

Rock Island Plan May Be Referred Back to I. C. C.

The district court at Chicago on December 9, ordered all interested parties in the Chicago, Rock Island & Pacific reorganization to file statements by December 31 showing cause why the reorganization should not be disapproved and referred back to the Interstate Commerce Commission. The action was a sequel to that taken by the United States Circuit Court of Appeals in the Chicago, Milwaukee, St. Paul & Pacific case on December 5 in which the court referred the plan back to the Commission for findings of fact.

T. P. & W. Wage and Rules Controversy Still Unsettled

The wage and rules controversy on the Toledo, Peoria & Western was still unsettled on December 18. Following a meeting of representatives of the Brotherhoods and the railroad with the National Mediation Board at Washington on December 11, the parties to the dispute returned to Peoria, Ill., and began a series of conferences. As the *Railway Age* goes to press the parties are still conferring. A modified embargo, described in the *Railway Age* of December 13, has been in effect since December 10.

New Lock to Handle Ore Movement

Senator Brown, Democrat of Michigan, has introduced S. 2132 to authorize the construction of a new lock in the St. Marys river at St. Marys Falls Canal, Mich. In offering the bill, Mr. Brown had printed in the record a letter urging prompt action which he had received from Ralph Budd, defense transportation commissioner.

Mr. Budd pointed out that provision for the lock is made in the pending omnibus rivers and harbors bill; but he thought the matter of sufficient importance to warrant the introduction of a separate bill, the passage of which could be expedited.

Signal Section Elects

The Signal Section of the Association of American Railroads has elected the following officers for 1942: Chairman, J. J. Corcoran, signal engineer, New York Central System, Line West of Buffalo, Cleveland, Ohio; First Vice-Chairman, S. W. Law, signal engineer, Northern Pacific, St. Paul, Minn.; Second Vice-Chairman, J. P. Muller, engineer signals and telegraph, Boston & Maine and signal engineer, Maine Central, Boston, Mass. R. H. C. Balliet remains secretary at 30 Vesey street, New York. G. K. Thomas, signal engineer, Atchison, Topeka & Santa Fe, Topeka, Kan., is retiring chairman.

Save Car-Miles on "Florida Sunbeam" By Through Car Curtailment

The New York Central, Southern and Seaboard Air Line which jointly operate the "Florida Sunbeam" between Chicago and Florida resorts via Cincinnati, Ohio, will save several thousand car-miles this season as compared with last by eliminating certain through cars on the train, thereby adding another substantial item to the list of passenger equipment economies already affected by the railroads. The Florida Sunbeam began winter service from Chicago and Detroit, Mich., on December 12 and from Toledo, Ohio, and Cincinnati on December 13. For the first time in its history the train will be all-Pullman.

Central Vermont's Boat Line Gets "Grandfather" Certificate

The Interstate Commerce Commission, Division 4, has granted to the Central Vermont Transportation Company, affiliate of the Central Vermont, a "grandfather-clause" certificate authorizing the continuance of operations as a common-carrier by self-propelled vessels in the transportation of commodities generally between the ports of New London, Conn., and New York by way of Long Island Sound and the East River. In deciding thus the commission rejected the contention of the applicant that, "because it provides transportation under contracts with and under the tariffs of the Central Vermont and the Central Vermont Terminal, Inc., which transportation is subject to Part I of the act," it was subject to Part I and not to Part III.

L. & A. Fined for Elkins Act Violation

Pleas of guilty were entered on December 10 in the United States District Court for the western district of Louisiana, at Monroe, La., by the Louisiana & Arkansas and the International Paper Company, to informations, in 10 counts each, charging the granting and receiving, respectively, of concessions in violation of section 1 of the Elkins Act, according to advices reaching the Interstate Commerce Commission. A fine of $10,000 was imposed upon each defendant, and was paid.

The informations alleged that the L. & A., by and through the Springhill Land Company, Inc., had donated to the International Paper Company, by and through its wholly-owned subsidiary, the Southern Kraft Corporation, parcels of land which had cost the Springhill Company approximately $75,000, for use by the Southern Kraft Corporation as a drainage area in connection with a plant which it constructed and operated at Spring Hill, La., the consideration for the donation being an agreement on the part of the Southern Kraft Corporation to construct the plant in question. As stated in the informations, the donation of the land for the drainage

area, upon which the informations were based, was in addition to other donations of land from the L. & A., by and through the Springhill Company, to the Southern Kraft Corporation.

The cases were investigated by the commission's Bureau of Inquiry, which also participated in their settlement in court.

Would Heed Railroad Complaint Against Truck Rates

Passing upon the complaint of 10 railroads, Examiner P. H. Dawson has recommended in a proposed report that the Interstate Commerce Commission require various truck lines to increase their rates on sugar moving under a 60,000-lb. minimum from Rocky Ford, Colo., Swink and Sugar City to points in Kansas and Missouri. The assailed rates range from 40 cents per 100 lb. to 46 cents, as compared with railroad rates ranging from 51 cents to 55 cents; and the examiner would have the commission prescribe truck minimums on the rail basis.

The proceeding is docketed as No. MC-C-203, The Atchison, Topeka & Santa Fe Railway Company, et al. v. A-1 Truck Line, et al., and it embraces also No. MC-C-211, Sugar from Colorado to Kansas and Missouri.

November Operating Revenues 20.9 Per Cent Above 1940

Preliminary reports from 89 Class I railroads, representing 82.3 per cent of total operating revenues, made public December 17 by the Association of American Railroads, show that those roads, in November, had estimated operating revenues amounting to $373,511,353, compared with $309,014,147 in the same month of 1940 and $325,431,277 in the same month of 1930. The November gross was 20.9 per cent above that for November, 1940, and 14.8 per cent above November, 1930.

Freight revenues of the 89 Class I roads in November, amounted to $314,001,216 compared with $258,010,922 in November, 1940, and $254,223,762 in November, 1930—21.7 per cent above the former, and 23.5 per cent above the same month in 1930. Passenger revenues totaled $33,449,464 compared with $26,527,463 in November, 1940, and $41,418,888 in November, 1930—26.1 per cent above the former, but 19.2 per cent below the same month in 1930.

Equipment Installed

Class I railroads installed 72,440 new freight cars in service in the first 11 months of 1941, according to the Association of American Railroads. New freight cars put in service in the same period last year totaled 59,473.

Of the total number of new freight cars installed in the 11 months period this year, there were 39,205 box, 28,786 coal, 1,682 flat, 2,007 refrigerator, 145 stock and 615 miscellaneous cars.

New locomotives installed in the first 11 months of 1941 totaled 557, of which 136 were steam and 421 electric and Diesel-electric. Installed in the first 11 months last year were 367 new locomotives, of which 104 were steam and 263 electric and Diesel-electric.

Class I roads on December 1, had 76,942 new freight cars on order, compared with 30,684 on the same day last year. New freight cars on order on December 1, included 50,968 box, 21,392 coal, 304 stock, 1,961 flat, 1,583 refrigerator and 734 miscellaneous.

They also had 572 new locomotives on order on December 1, of which 281 were steam and 291 electric and Diesel-electric. New locomotives on order on December 1, last year, totaled 182, which included 116 steam and 66 electric and Diesel-electric.

September Bus Revenues 30.8 Per Cent Above 1940

Class I motor carriers of passengers reported September revenues of $14,275,572 as compared with $10,910,916 in September, 1940, an increase of 30.8 per cent, according to the latest compilation prepared by the Interstate Commerce Commission's Bureau of Statistics from 146 reports representing 147 bus operators. Passengers carried increased 35.1 per cent, from 13,359,030 to 17,907,556.

	Passenger Revenue		Passengers Carried	
	1941	1940	1941	1940
New England Region	$667,486	$581,153	1,325,524	1,021,936
Middle Atlantic Region	1,803,623	1,644,662	3,311,839	2,686,352
Central Region	2,514,696	2,074,256	3,394,735	2,813,843
Southern Region	3,589,020	2,456,263	4,422,089	2,943,755
Northwestern Region	433,728	427,027	315,971	324,147
Mid Western Region	1,147,564	946,314	741,397	599,823
Southwestern Region	1,861,235	1,247,107	1,957,277	1,241,283
Rocky Mountain Region	143,323	119,002	94,186	80,561
Pacific Region	2,014,897	1,415,132	2,344,538	1,547,330

The breakdown by regions of the bus revenue and traffic figures, which exclude data on charter or special party service, is given in the accompanying table.

Seaboard Loses in Supreme Court

The United States Supreme Court at its session on December 15 refused to exempt certain soft coal mining operations of the Seaboard Air Line from minimum price provisions of the National Bituminous Coal Act. The same case of Gray and others versus Powell, Jr., and others, came up for decision at the last term of the court, and the membership of the tribunal divided four to four, with the result that the decision of the lower court holding that the operations of the railroad were exempt was upheld. After the divided decision, the Court granted a reargument of the case at this term.

The result of the present decision, which was reached by a six to three vote, with Justice Reed writing the majority opinion, is to overrule the lower court and reinstate the ruling of the Director of the Bituminous Coal Division.

Director Gray had taken the position that the company had employed a contract "device" to protect itself from price increases resulting from the operation of the Act. During oral argument on the case counsel for the government told the court that a decision for the company would point the way for the resumption of "cut-throat competition" in a large part of the industry.

Justice Roberts wrote a short dissent in which he was joined by Chief Justice Stone and Justice Byrnes. In his dissent Justice Roberts contended that the judgment of the lower court should be affirmed. "There are limits," he wrote, "to which administrative officers and courts may appropriately go in reconstructing a statute so as to accomplish aims which the legislature might have had but which the statute itself, and its legislative history, do not disclose. The present decision, it seems to me, passes that limitation."

Must Accept Substitutes for Copper in Locomotives and Cars

Because of the large war demands for copper, railroads must accept substitutes for copper and for copper-alloy parts used in locomotives and cars, it was disclosed at a meeting of representatives of railroads and supply companies at Chicago on December 16. The meeting was called by a Special Committee on Locomotive and Car Construction of the Mechanical division of the Association of American Railroads to discuss a possible reduction of 30 per cent in the amount of copper used in car and locomotive parts. A second meeting will be held in the offices of the A. A. R. at Chicago on December 29 at which figures on amounts used and estimates of maximum possible reductions will be presented and discussed. Army and navy consumption of copper in 1942, it was reported, will exceed the total production in 1941 and unless the output is increased the situation will be serious.

On the same day the Engineering division of the Association notified its members that notice had been received from the OPM that manufacturers of track and structural materials are now prohibited from using ingot or virgin copper for the production of copper-bearing steel. Accordingly, the division's notice said, orders specifying copper-bearing steel cannot be filled, except that there is no prohibition of the manufacture and sale of steel containing residual copper by reason of the use in manufacture of indeterminate amounts of scrap copper-bearing steel.

New Haven Starts Eighth Snow Train Season January 9

The New York, New Haven & Hartford's eighth "snow train" season is scheduled to begin January 9 with the "Ski Meister" and "Eastern Slope Express" leaving New York at 8:40 p. m. and 8:45 p. m., respectively, due back New York on the following Monday morning. Both trains will operate throughout the snow season. The only exceptions to this schedule will be made over Washington's birthday, when they will be due back Tuesday and over Easter, when they will leave Thursday evening, April 2.

The New Haven will continue to offer

special 10-day round-trip fares on these trains this season, enabling ski-fans to leave New York on Friday evening and be due back one week from the following Monday. The Ski Meister operates to St. Albans, Vt. via N. H., B. & M. and C. V., while the Eastern Slope Express operates to such New Hampshire points as North Conway, Intervale, Plymouth and Laconia via N. H. and B. & M.

The one-day snow trains to the Berkshire hills are scheduled to start their season Sunday, January 11. The Snow Clipper, operating non-stop between New York and the snow train station at Pittsfield, Mass., will leave New York 7:10 a. m. while the "Snow Express," operating to Great Barrington, Mass., and South Lee in addition to Pittsfield, will leave at 7:20 a. m. The New Haven served more than 12,000 winter sports fans last season.

Bankrupt Carriers Affected by Tax Ruling

A taxation ruling of importance to railroads in reorganization, although not directly involving them, has recently been handed down by the Board of Tax Appeals. By its action in the case, which was docketed as the Panhandle Refining Company versus the Collector of Internal Revenue, the Board of Tax Appeals has blocked Treasury Department plans to restrict the use of accrued interest as a deduction in determining the taxable income of corporations.

The question at issue in the case was whether accrued interest owed by a bankrupt company is or is not a charge of earnings deductible in computing income for tax returns. The Treasury's position is that accrued interest in certain cases is merely a book entry, is not properly a charge on earnings, and therefore, is not deductible.

The Board of Tax Appeals, however, has placed a different interpretation on the law, holding that to uphold the Treasury position would be "to add to the statute" which permits companies keeping their books on an accrual basis to deduct, in determining their taxable income, interest accrued during the taxable year whether or not paid.

If the Treasury should have the law amended, or appeal the case and be successful, it would mean that the entire net operating income of certain roads in bankruptcy, less only payments actually made to bondholders in cash, would be subject to federal income, surtax, and possibly excess profits taxes.

Railroaders Asked to Invest Back Pay in Defense Bonds

Secretary Morgenthau has appealed to American railroad employees to invest immediately in Defense Savings Bonds the back pay they will receive from the railroads in lump sum settlement of wage increases dating back to September 1.

The Secretary's appeal was made in letters to J. G. Luhrsen, executive secretary of the Railway Labor Executives Association, and A. F. Whitney, president of the Brotherhood of Railroad Trainmen. They were written in response to Mr. Luhrsen's telegraphed pledge to the Secretary of "unreserved support of the Victory program," and a letter from Mr. Whitney offering "all-out support" from the Trainmen.

Mr. Luhrsen assured the Secretary that one million railroad employees included in the 20 unions affiliated with his association, would invest regularly a part of their earnings, in Defense Savings Bonds. Leaders of the member unions "are now engaged in formulating plans on a nation-wide basis . . . for the systematic purchase" of Defense Savings Bonds and Stamps through voluntary payroll allotment plans, Mr. Luhrsen said.

To both Mr. Luhrsen and Mr. Whitney, the Secretary suggested that immediate investment of accrued back wages would "finance the building of a fleet of heavy bombers or a battleship . . . as a direct and effective contribution to the victory which this nation has set itself to win."

Mr. Morgenthau also urged that every railroad employee take part in the systematic savings plan offered by voluntary payroll allotments, as the easiest method for giving "continuous support to the national war effort."

Non-Ops Settle Labor Controversy

(*Continued from page 1055*)

member of the President's Emergency Board, was the one who wrote in its entirety the vacation section of the November 5 report. The other members of the Board concurred in the chairman's views and recommendations on vacations as set forth in that report.

"This referee believes, as he believed when he wrote the vacation section of the November 5 report, that the recommendations as to vacations contained therein are fair, just, and sound when weighed in light of the record made by the parties at the Chicago hearings. He believed then and believes now that the vacation recommendations of the November 5 report gave the employees all they were entitled to when the preponderance of the evidence test was applied to the record of evidence made by the two parties in the vacation dispute.

"However, when the President's Emergency Board was accepted by the parties as a mediation Board, following the rejection by the employees of the report of November 5, then it became necessary for each member of the Board to set aside in his thinking the conclusions which he had reached on the various issues as a result of his analysis of the record made by the parties at the Chicago hearings. Such a task of mental gymnastics was a difficult one, but not an impossible one, once the Board recognized clearly that its primary function in mediation was to lead the parties to a reasonable compromise of their differences.

"This important point of procedure, this vital difference between a judicial finding and a mediation compromise, this differentiation between legal theory and practicality, this contrast between idealism and realism, must be recognized and appreciated by the parties to this dispute if they are to have any intelligent understanding of the rulings contained in this vacation award.

"The referee would have preferred it if the parties had selected some third party entirely unfamiliar with the background of this dispute to write the vacation agreement. However, he recognized that the parties were entitled to have someone from the Emergency Board do this job for them because of the fact that an understanding of the background of the dispute is, after all, essential if the final contract is to carry out the spirit and intent existing among the parties at the time of the Washington mediation settlement.

"The referee appreciates the fact that this award will not be satisfactory to either side as to many of its features because it consists, and necessarily so, of a setting up of the referee's value judgments in conflict with the desires and opinions of the parties.

"However, every referee or arbitrator always finds himself in that position, and hence he must ignore the feelings of the parties and be guided solely by the dictates of his best and honest judgment in the premises."

In a separate ruling on December 16, members of the Board ruled in favor of the Railway Express Agency, Inc., when they decided against increasing extra wage allowances of 4½ cents an hour for certain employees. On the other hand, the Board sustained the employee's contention that a minimum wage of 45 cents an hour will apply retroactively from September 1 to November 30.

Study Board Seeks Cooperation on Its Research Program

Inviting cooperation and suggestions in connection with its program, the Board of Investigation and Research created by the Transportation Act of 1940 has sent a letter to a large number of governmental, shipper, carrier and trade organizations.

Organizations addressed were those "known to be concerned with transportation policies and problems," and the letter requested replies as to any specific subjects the interested parties wish to suggest for the board's consideration; and whether such parties are prepared to assist the board by making material available, or by assigning personnel to advise with the board, and, if need be, to assist in the preparation of material. The letter said that valuable suggestions have already been received, and an accompanying statement listed some of them. That list of suggested lines of investigation follows:

1. The adequacy of rail, motor and water transportation facilities for present traffic requirements for war and civilian needs, and for prospective requirements in 1942. If inadequate, the extent of such inadequacy; and the reasons therefor.

2. The ways in which the utilization of existing rail, highway, and water transportation facilities can be improved by: (a) Carriers; (b) shippers; (c) governmental actions.

3. The standards to be followed in determining the relative economy and fitness of carriers.

4. The types of service for which rail, highway, and water carriers are especially fitted or unfitted; the reasons therefor; and means of adjusting the various types to

those services for which they are best suited.

5. The extent to which, and sense in which, "coordination" of carrier services is desirable in the public interest; and the methods whereby, as a practical matter, it can be achieved.

6. The extent to which competition among types of carriers, and among carrier agencies of each type, should be relied upon to provide an adequate national transportation system.

Freight Car Loading

Loading of revenue freight for the week ended December 13 totaled 807,225 cars, the Association of American Railroads announced on December 18. This was a decrease of 26,150 cars, or 3.1 per cent, below the preceding week, but an increase of 70,885 cars, or 9.6 per cent, above the corresponding week in 1940, and an increase of 129,093 cars, or 19 per cent, above the same week in 1939.

As reported in last week's issue, loadings of revenue freight for the week ended December 6, totaled 833,375 cars, and the summary for that week, compiled by the Car Service Division, A. A. R. follows:

Revenue Freight Car Loading
For Week Ended Saturday, December 6

Districts	1941	1940	1939
Eastern	172,649	158,265	147,191
Allegheny	180,777	153,806	149,405
Pocahontas	56,020	46,725	44,031
Southern	122,191	114,393	102,025
Northwestern ..	112,052	89,821	82,002
Central Western	126,627	119,283	107,842
Southwestern ..	63,059	56,220	51,477
Total Western Districts	301,738	265,324	241,321
Total All Roads	833,375	738,513	683,973
Commodities			
Grain and grain products	42,754	35,465	38,310
Live stock	14,631	15,596	14,971
Coal	150,518	148,406	125,641
Coke	13,114	12,567	12,034
Forest products.	41,005	39,833	34,996
Ore	36,087	12,488	11,858
Merchandise l.c.l.	156,420	155,319	154,216
Miscellaneous ..	378,846	318,839	291,947
December 6 ...	833,375	738,513	683,973
November 29 ..	866,189	728,525	685,496
November 22 ..	799,386	733,488	673,113
November 15 ..	883,839	745,295	766,987
November 8 ...	873,585	778,318	781,588
Cumulative Total, 49 Weeks ...	40,072,479	34,378,452	32,033,910

In Canada.—Carloadings for the week ended December 6 were 66,666, as compared to 69,097 in the previous week and 60,705 a year ago, according to the summary of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Dec. 6, 1941	66,666	32,402
Nov. 29, 1941	69,097	31,796
Nov. 22, 1941	67,053	31,359
Dec. 7, 1940	60,705	27,978
Cumulative Totals for Canada:		
Dec. 6, 1941	3,023,787	1,468,608
Dec. 7, 1940	2,656,430	1,215,295
Dec. 9, 1939	2,418,349	1,058,433

Hearings on Big Truck Bill Are Recessed

Hearings on S. 2015, Senator Wheeler's (Democrat of Montana) "big trade bill", to give the Interstate Commerce Commission power, upon complaint, to set aside state laws governing sizes and weights of motor vehicles engaged in interstate commerce, were recessed last week with the thought that they will be resumed sometime around the middle of January.

At last week's closing session the Senate interstate commerce subcommittee heard four representatives of the Florida agricultural industry testify that housewives in many states are paying more for Florida oranges and fresh vegetables because of laws restricting the loads that trucks may carry.

The witnesses were Hiram Bakes, of the State Market, Pompano, Fla.; Frank H. Scruggs, State Marketing Bureau, Jacksonville, Fla.; W. C. Hutchison, Chase & Co., Sanford, Fla., fruit and vegetable dealers; and John A. O'Rourke, manager of the Growers & Shippers League, Orlando, Fla.

Mr. Bakes said that truck operators had been unable to submit bids on fruits and vegetables going to Army camps in Arkansas, Illinois, and Missouri because of the load restrictions enforced by Kentucky and Tennessee and because of the risk of being delayed at the border lines of these states and thus missing the market.

Mr. Scruggs predicted that because of the war emergency many rail refrigerator cars will not be available for the next Florida crop, and that growers will have to depend even more on motor vehicles for transportation. Mr. Hutchison criticized truck weight laws in Alabama, Mississippi, Tennessee, Kentucky, Louisiana and Arkansas, and also warned of a possible railroad shortage of refrigerator cars.

Also, various other representatives of trucking associations in all parts of the country appeared briefly and testified in support of the bill.

Suggests Centralized Control of Defense Traffic

The fact that government officials are giving serious consideration to the establishment of centralized government control over defense traffic was revealed in recent statements made by Colonel Charles P. Gross, chief of the transportation branch, supply division of the general staff, War Department, before the House merchant marine and fisheries committee. The statements appeared in testimony given in executive session on H. R. 6001 and H. R. 6002, identical bills, which would authorize the Maritime Commission to prescribe arrangements for foreign freight forwarding.

Colonel Gross appeared in opposition to the measures before the committee. "The War Department transportation branch, which is controlled by the general staff, but operated by the Quartermaster General," he testified, "controls transportation, and that control is becoming more impressive all the time over all the agencies of the War Department, and the war picture is such, and the lend-lease picture is such, that it becomes increasingly evident that control may have to be exercised over all federal agencies, and there cannot be any competition as to means of transport."

"This bill," he continued, "proposes to wipe out the transportation section of the Quartermaster Department and duplicate it in the Maritime Commission, and then the Maritime Commission becomes a competitor for rail transportation themselves, and they determine what supplies are to go to a port, and so do we, and we have the two agencies determining what flows to our ports, competing with each other for the lines, and each pointing to the other as the cause for any congestion that there may be at a port. . . . We are competing with the Department of Agriculture, or we might compete with the Department of Agriculture. When that competition cannot be suffered longer, there will be one agency to handle it."

Court Says "No" To O. C. Merger

(*Continued from page 1054*)

in fact, he asks, "why should New Haven capital be drafted to stifle potential competition which is based not on evidence but solely on hypothesis."

(4) Pointing out that, according to the plan, the N. H. is to pay $22,511,277 for the O. C. and in addition cancel the O. C.'s unsecured claim for $47,186,963, the Judge writes: "By providing that this claim be cancelled, the plan contemplates that the corresponding benefit to the New Haven estate will be wholly absorbed by common creditors, whose claims are to be discharged by the issuance of common stock in the reorganized company, to the exclusion of all whose claims are treated as secured. And although the consideration to be paid for the Old Colony properties is to be taken from secured creditors of the New Haven, what is perhaps the most valuable asset in the Old Colony estate is so dealt with that only unsecured creditors of the New Haven in their status as common stockholders of the reorganized company, receive any benefit therefrom. This feature of the plan I hold to be discriminatory and on that account must disapprove the plan."

T. A. of A. Wants Transportation Exempted from Anti-Trust Act

Since ample power has been placed with the Interstate Commerce Commission to protect the public in rate matters, legislation exempting the railroads from anti-trust laws should be passed, according to Joseph H. Hayes, counsel, Western Association of Railway Executives, who spoke on Railroad Rate-Making and the Sherman Anti-Trust Law at the annual luncheon of the Transportation Association of America at the Union League Club, Chicago, on December 10. Donald D. Conn, executive vice-president of the T. A. of A. also addressed the luncheon and said, "We have become instantly united in a victory objective. The most effective method of attaining that objective is to rely on our time-tried private enterprise system and not ask government to be all things to all men. We must abandon the philosophy which has supported idle men, idle dollars, and idle resources. It is time for longer hours, coats off, sleeves rolled up, and some good honest sweat. Such is the way of free enterprise."

As a result of studies of the transportation problem as a whole during the last six years, the Transportation Association of America has recently published the first

of a series of brochures urging that regulated transportation should be exempt from the provisions of the Sherman Anti-Trust Act to encourage the voluntary and orderly integration of all types of transport. The first of these brochures briefly gives the background and history of the various anti-trust laws and the laws regulating transportation and explains why the anti-trust laws no longer are needed for regulated transportation and that numerous important actions and changes that are recognized as desirable and necessary for the betterment of transportation are impossible of achievement because they are forbidden under penalty by the anti-trust acts.

At the annual meeting before the luncheon, a new board of directors of the association was elected. The new board re-elected the existing officers of the association, including C. J. Abbott, president of the Abbott Company, Hyannis, Neb., as chairman of the board, and J. A. Gordon, president, Donald D. Conn, executive vice-president and Miss Edith C. Krogh, secretary.

Military Services Prohibit Traffic Solicitation

The War and Navy Departments have prohibited the personal solicitation of traffic by representatives of individual railroads and trucking companies "except in emergency cases where calls (in person or by telephone) are manifestly in the interest of transportation service."

Lieutenant Colonel E. C. R. Lasher, chief of the transportation section of the Quartermaster General's Office, made the announcement on behalf of the War Department. It is applicable only to the War Department's freight section.

Although no formal announcement has been issued by the Navy Department, inquiry at the agency this week revealed that both it and the Marine Corps were following an identical policy as announced by the War Department. It has also been learned that from now on the various military services will send freight and passengers by the fastest route available, regardless of other factors.

Colonel Lasher said that carrier representatives would be contacted immediately if it becomes necessary to arrange for special transportation services. He further requested that all information concerning movement of War Department material be kept confidential and declared that an equitable distribution of traffic between lines affording comparable service would be continued.

Under the new order both the War and Navy Departments will discontinue their old practice of furnishing carrier representatives with copies of routing orders and leaving copies of such orders open to inspection.

President Can Consolidate I. C. C. Functions

The President will be given power to move or consolidate the functions of the Interstate Commerce Commission with those of other federal agencies during the period of the war under provisions of S. 2129 and H. R. 6233, which were passed this week by the Senate and House, respectively. This authority will also extend to the Railroad Retirement Board, the National Mediation Board, the National Railroad Adjustment Board, and the Board of Investigation and Research created by the Transportation Act of 1940.

This authority is given the Chief Executive in a measure which is entitled, "A bill to expedite the prosecution of the war effort," and which reenacts the Overman Act of World War days and the Trading With the Enemy Act of the same period.

Presumably, all agencies of the government will be subject to change by the President, if he sees fit, with the exception of the General Accounting Office, which was exempted by an amendment on the floor of the Senate. Whether this exemption will hold in conference is not known at this time, as the House version did not include such an amendment.

Previously government reorganization bills have specifically exempted the Interstate Commerce Commission, but no such action was taken with regard to the pending measure. Realization on the part of members of the Senate that the commission came within the scope of the bill was made evident when, in the course of the debate, Senator Taft, Republican of Ohio, declared that "for instance, on the question of the revision of the rates of railroads, the Interstate Commerce Commission may delay so long, or somebody may think they delay so long, as to imperil the proper operation of the railroads, and their functions may be transferred to some other body, say the Federal Trade Commission."

Inquiry at the commission reveals that during the World War the operations of the Overman Act did not directly affect the work of that agency. Some employees of the commission did go over to the United States Railroad Administration, but no functions were transferred.

St. Louis Car Men Elect New Officers

At the annual meeting of the Car Department Association of St. Louis, held on December 16, at the Hotel DeSoto, St. Louis, Mo., the following were elected officers for the ensuing year: President, A. R. Holloway, passenger car foreman, Pennsylvania, St. Louis, Mo.; first vice-president, G. R. Phillips, superintendent, St. Louis & O'Fallon, East St. Louis, Mo.; second vice-president, L. W. Martin, general car foreman, Terminal Railroad Association of St. Louis; third vice-president, R. G. Setzekorn, mechanical superintendent, American Refrigerator Transit Company, St. Louis, Mo. J. J. Sheehan, chief clerk to superintendent car department, Missouri Pacific, was re-elected secretary and J. J. Helle, chief clerk to superintendent, St. Louis Refrigerator Car Company, was re-elected treasurer.

President H. C. Argast, superintendent, St. Louis Refrigerator Company, presided at the meeting and after the election of officers introduced E. L. Woodward, western editor, "Railway Mechanical Engineer," who served as chairman of the Taylor Award committee, and announced the following award of prizes for the three best short papers presented during the year by car men from the ranks: Twenty-five dollar first prize for the paper, "Passenger Car and Coach Yard Sanitation," presented at the September 16 meeting by Neal J. Capaldo, clerk and extra gang foreman, Terminal Railroad Association; $15 second prize for the paper, "Pullman Equipment Maintenance and Periodic Inspection," presented at the March 18 meeting, by W. T. Kidwell, yard foreman, Pullman Company, and $10, third prize, for the paper, "Fire Prevention in Connection With Car Department Work," presented at the February 18 meeting by Edward Sparn, planning mill man, Southern.

Other members of the Award committee who worked with the chairman in rating the individual short papers included D. J. Sheehan, superintendent motive power, Chicago & Eastern Illinois, and R. G. Setzekorn, American Refrigerator Transit Company, St. Louis. As soon as the award was announced, the Entertainment committee, under the direction of C. B. Martin, St. Louis Malleable Castings Company, took charge of the meeting and put on an interesting program of entertainment for approximately 400 members and guests who were in attendance.

Seasonal Rate Fluctuations Permitted in Canada

When the Canadian government in its price-control policy, to prevent "runaway" inflation, set a "ceiling" on all prices, including railway rates, it found that there were special conditions (seasonal, for example) that required exceptions. The ceiling on all prices became effective December 1 and provided that no prices should thereafter exceed the maximum prices or charges in the basic period (September 15 to October 11).

Last week the Wartime Prices and Trade Board, whose function is to enforce the ceiling, announced an important exception for the railways. Every year at the beginning of December, or as soon as navigation closes on the Great Lakes, the railways are permitted by the Transport Commission to raise certain of their water-competitive rates and to maintain these higher rates until the reopening of navigation in the spring.

The Prices Board has ruled that the railways may continue this practice so long as the rate increase is no more than the normal seasonal increase, within the limits of the practice permitted by the Transport Commission. This means that the railways may disregard the ceiling for the winter months in areas where there is water competition in the summer. The effect will be to increase the cost of moving package freight, certain types of heavy bulk freight, including grain—but by no more than such costs are ordinarily increased at this time of year.

Three months ago the Dominion government established a policy of bonusing Ontario farmers who have had to bring mill feed from Western Canada to feed their livestock, a serious drought this summer having ruined their own sources of livestock feed. The government decided to help these farmers, who are regarded as much in the front line as the soldiers, because they are filling huge foodstuff con-

tracts with Britain (dairy products, eggs, meats and livestock), and it is paying the freight charges on their mill feed from the head of the Lakes to Western Ontario and Central Ontario points. Removing the ceiling on railroad charges for the winter months means the federal treasury will have to pay an even larger subsidy to the farmers.

Following is the text of the official statement:

"The Wartime Prices and Trade Board today ruled that for the purposes of the Maximum Prices Regulations the highest freight and express rates which may be charged for shipments by rail shall be those which prevailed under the normal rate structure which has been established for many years under the jurisdiction of the Board of Transport Commissioners. No increases in such rates may be made without the concurrence of the Wartime Prices and Trade Board.

"Temporary or special rates lower than the basic level of rates, such as those on seasonal goods and those set at competitive levels with rates for water-borne traffic and trucks will continue to apply in the same circumstances and seasons as in the past. Accordingly, summer rates which normally expire on November 30 will not apply during the Winter season, but will be re-established in the Spring.

"The Board of Transport Commissioners will continue to exercise their usual jurisdiction including the approval of rate changes. Increases in any rate above that which prevailed under the basic rate structure in 1941, however, will require the concurrence of the Wartime Prices and Trade Board. There is no question at the present time of any application for such an increase above the basic level. Similar principles will be observed in connection with railway passenger rates."

Chamber of Commerce Lists War-Aid Steps

As a step in enlisting business men's organizations in the war effort, the board of directors of the Chamber of Commerce of the United States have approved suggested plans of action which will go to 1,700 chambers of commerce and trade association members throughout the country.

Under the listing of protection of strategic centers, the report sent out by the Chamber declares that in every community there are such centers vital to the normal functioning of the community. "These," it continues, "include water systems, electric power and light plants and systems, gas plants and systems, bridges, railroads, telephone systems, subways and tunnels, and harbor facilities. Practically every chamber of commerce has a close overall acquaintance with the location of these various strategic points, personal acquaintance with the owners and engineers, and knowledge as to the availability of maps of the areas. Some cities have worked out effective defense plans for emergencies, involving these strategic points. Chambers of commerce should make available to the appropriate officials of the Army and civilian defense organizations all necessary information to permit effective protection of such centers when emergencies occur."

Relative to transportation the report goes on to say that to expedite movement of freight and passengers local organizations have done and will continue to do effective work in promoting more efficient utilization of railroad cars and in arranging for staggering of hours in industries and businesses.

November Export Traffic

Cars of export freight, other than grain or coal, unloaded at Atlantic, Gulf and Pacific ports in November this year totaled 56,104 cars, compared with 42,162 cars in November 1940, according to the Association of American Railroads. Cars of grain for export unloaded in November this year at these ports totaled 2,920 cars compared with 2,325 cars in the same month last year.

"No congestion or delay to traffic exists at any of the Atlantic, Gulf, or Pacific ports, due to the cooperation of steamship lines, port authorities, exporters and shippers," the A. A. R. said.

* * *

Lima Delivers a Locomotive

The first of an order of ten 2-6-6-6 locomotives was delivered to the Chesapeake & Ohio by Lima Locomotive Works, Inc., at Lima, Ohio, on December 9. Left to right: H. W. Snyder, Works Manager, Lima Locomotive Works, Inc.; A. W. Hix, Assistant General Purchasing Agent, C. & O.; D. S. Ellis, Chief Mechanical Officer, C. & O., and J. D. Dickinson, Assistant to President, Lima.

Transport Board Gets Its Money

(*Continued from page 1054*)

The commitment to the Senate subcommittee was made firm in the testimony of Board Member Robert E. Webb after Senator McKellar, Democrat of Tennessee and chairman of the subcommittee, had failed to get what he regarded as a satisfactory statement on the matter from Board Chairman Nelson Lee Smith. "Give us $246,500 as recommended by the Budget," Mr. Webb said, "and the study on that subject will be started by the board. We are doing other studies, of course. But that study will be started and the recommendation will be made."

Later, the board followed through with a letter to Senator McKellar, written to remove any misunderstanding as to its position on the rate probe. The letter said: ". . . should the funds presently requested be appropriated, the board will immediately investigate the interterritorial rate structure of the country. Our investigation will relate to the cost of the services rendered, the effect of rates upon the movement of commerce, and their influence upon the utilization of our transportation system and the national economy. The board will begin these studies as soon as the requested $246,500 supplemental appropriation recommended by the President and the Bureau of the Budget is made available. It should be understood that the additional recommended appropriation of $246,500 will not be sufficient, in view of the other duties required of the board, for a complete investigation of this entire question within the statutory life of the board. It is, however, the purpose of the board to undertake such studies as soon as funds become available and to report to the Congress and the President, its progress, findings and recommendations."

While he did offer some testimony about the activities and plans of the board, as he had at House appropriations subcommittee hearings reported in last week's issue, much of Board Chairman Smith's time before the Senate committee was taken up in the discussion of the interterritorial rate situation. The question was first raised by Senator Overton, Democrat of Louisiana, but Chairman McKellar thereafter became the most aggressive advocate in the drive to get the commitment out of the board. Generally, Mr. Smith's responses were to the effect that the interterritorial rate question would be considered in connection with the board's work on its specific assignments. As he put it in one answer, the board in determining the relative economy and fitness of transportation agencies would go into the question of the relative costs of carriers and "whether we are using our different kinds of carriers in different sections of the country as we should."

But that type of statement didn't satisfy Senator McKellar. He said it "couldn't get my vote," having previously stated it to be his understanding that the Senate

Continued on next left-hand page

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Because of the striking increases in train load-speed capacity achieved by the application of The Franklin System of Steam Distribution, the railroads are forming an entirely new concept of locomotive design. The steam locomotive of tomorrow will be a much more compact and efficient unit. For passenger service, where speed is paramount, it is now possible to build locomotives of smaller size that will have the necessary power to handle the present loads. For service where speed and capacity are the governing factors, it is now possible to build locomotives with the same overall dimensions yet 33% larger in train load-speed capacity.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

committee on interstate commerce had failed to confirm the board as first appointed by President Roosevelt "because all three of them came from one area." Chairman Smith was the only one of the three original appointees who finally became a member of the board. The others appointed originally were Wayne Coy and Charles West, for whom the other two present members—Mr. Webb and C. E. Childe—were later substituted by President Roosevelt.

Senator Lodge, Republican of Massachusetts, brought out the fact that the intent of Congress in creating the board "was not primarily to have a rate investigation." But before the discussion following that observation had concluded, Senator McKellar again declared himself, saying: "I would be very happy to vote for this if I knew the board was going to make a report on the interregional freight rates, especially railroad rates, but if you are not, I would be very happy to vote against it." And Mr. McKellar remained unappeased until he got the aforementioned specific commitment from Board Member Webb. Even with that and the follow-up letter of the board in the record, the committee undertook to make doubly sure by including the specific directions as to the rate probe in the item making the appropriation.

When the conference report came before the Senate with the specific directions eliminated interested Senators made it plain that they were agreeing to the elimination only with the understanding that the board would nevertheless make the interterritorial rate investigation under its general powers. Senator McKellar put the board's aforementioned letter into the Congressional Record, and meanwhile he had called up the offices of the board and talked with Mr. Childe. "Mr. Childe," as Senator McKellar put it, "said he knew that the board as a board would carry out the terms of this letter. Under the circumstances I feel that the board will do what they have agreed to do. . . ."

Past Application of Proportionals on Ex-Barge Grain

Clarifying the previous decision of Division 2, the Interstate Commerce Commission in a report on reconsideration has found that reshipping or proportional rail rates on grain and grain products from Chicago and other grain rate-break points to eastern destinations were legally applicable in the past on ex-barge traffic with respect to which the railroads have made the rates inapplicable. In the latter connection the commission affirms Division 2's finding that the tariffs restricting the rates so that they will not apply on the ex-barge (Illinois Waterways) traffic are not unlawful.

The case is docketed as I. & S. No. 4718, and Division 2's report was noted in the *Railway Age* of August 16, page 288. It was that report's conclusion that the proportionals had never been applicable on the ex-barge traffic that brought petitions for reconsideration from all parties to the proceeding. As indicated above, the commission's finding in that connection is that "the proportional rates here under consideration were legally applicable on the ex-barge traffic where the so-called policing provisions were strictly complied with." Commissioner Lee concurred in the result of the majority opinion, while Chairman Eastman filed a lengthy dissenting-in-part expression. He agreed with the finding as to the applicability of the rates to ex-barge traffic of the past, but not as to the lawfulness of the tariffs making the rates no longer applicable on such traffic. A similar position was taken by Commissioner Alldredge in a brief dissenting expression, although he did not think that the lawfulness of the rates in the past should have been considered to be an issue. Commissioners Porter and Johnson joined in the Alldredge expression.

Chairman Eastman's above-mentioned dissenting-in-part expression was written because he thought the reasons why Division 2's conclusion as to the applicability of the rates in the past was "unsound" should be pointed out "clearly and explicitly." The majority, as he said, reversed that conclusion "almost without discussion." Much of Mr. Eastman's comment was a defense of the use of "proportional" rates or rates "in the nature of proportional rates," such as "reshipping," "transshipment," "ex-lake," "ex-river," etc., i. e., a defense of the practice "of charging less for transportation which is a part of a longer through haul than for strictly local transportation between the same points."

As to the part of the decision to which he dissented, Mr. Eastman said that, as he understood the situation, the effect of the restricting tariffs sanctioned by the majority "will be to limit the outlet of the ex-barge grain to local consumption in Chicago and to lake and lake-rail routes to Eastern points"—unless "the prices paid to the farmers whose grain is barged are reduced." And while the question was not in issue, the chairman expressed a tentative opinion that where grain is trucked into Chicago from competitive territory, the failure to apply the reshipping rates to the grain brought in by truck results in violations of sections 2 and 3 of the Interstate Commerce Act, "provided adequate provisions for the identification and policing of such shipments are practicable and enforceable."

Construction

MANUFACTURERS RAILWAY.—A contract has been awarded the W. C. Harting Construction Company, St. Louis, Mo., for the erection of a one-story, 38-ft. by 100-ft. office and storage building at 3025 South Wharf street, St. Louis. The building will be of brick, with a concrete foundation and an asphalt shingle roof and will be equipped with an oil furnace, unit heaters, etc.

MASSILON, OHIO (Local Protection Project).—The United States Engineer office, Huntington, W. Va., has awarded a contract amounting to $448,045 to the Fort Pitt Bridge & Iron Works, Pittsburgh, Pa., for the construction of the super-structure of the new bridge for the Pennsylvania over the Tuscarawas river at Massilon, about 700 ft. downstream from the present bridge. The new bridge will consist of three 192-ft. truss spans and is a part of a large channel change project for the Tuscarawas river in Massilon, which was described in the *Railway Age* of July 5.

NORTHERN PACIFIC.—A bridge 137½ ft. long, which will consist of four girder spans on a reinforced concrete substructure, is being built 14 miles east of Superior, Mont. The bridge will replace six spans of frame trestle supported partly on rock and partly on earth on the steep bank on the south side of Clarks Fork river. The trestle was built as a temporary structure following high water damage in 1933. The substructure of the new bridge is being built under contract by A. T. Nolan, Minneapolis, Minn.

PENNSYLVANIA.—Division 4 of the Interstate Commerce Commission has issued an order in Finance Docket No. 13294, extending from December 1, 1941, and April 1, 1942, to March 1, 1942, and July 1, 1942, respectively, the time within which this company shall commence and complete the construction of a line in Allegheny County, Pa.

PENNSYLVANIA.—The Pennsylvania Public Utility Commission has approved plans calling for the construction of a crossing below grade at a point where the tracks and right-of-way of a proposed extension of the Pennsylvania's Plum Creek branch will cross underneath the tracks of the Pittsburgh, Bessemer & Lake Erie in Plum and Penn townships. It is proposed to construct a reinforced concrete arch tunnel underneath the tracks. The tunnel will have a width of 16 ft., an overhead clearance of 18 ft. above the top of the rails and a length of 316 ft. Cost of the improvement is estimated at $244,400.

PENNSYLVANIA.—Work has been started on an extension to this company's passenger service facilities at the Sunnyside Yard, Long Island City, N. Y., which will include a new and up-to-date laundry plant, linen storage loft, ice house and pipe storage room. The new building, of steel frame construction with brick walls and concrete floors, will be located between the present battery house and the first aid building at the yard. Two stories in height, the structure will harmonize with the other existing buildings and will give the passenger-car yard facilities of the most modern type for servicing the railroad's dining cars and coaches. The George A. Fuller Company, of New York, has been awarded the contract for this work, which is expected to be completed during the spring of 1942.

UNITY.—Division 4 of the Interstate Commerce Commission has issued an order in Finance Docket No. 13286, extending from December 1, 1941, and April 1, 1942, to January 1, 1942, and May 1, 1942, respectively, the time within which this company shall commence and complete the construction of a line in Allegheny County, Pa.

Equipment and Supplies

Frisco Seeks Authority to Spend $4,302,569

The St. Louis-San Francisco has asked the district court for permission to spend $4,302,569 during 1942, of which $2,478,267 will be expended on roadbed repairs and replacements and the balance for improvements to equipment. The company plans to convert 400 freight cars and to enlarge its station at Newburg, Mo., where the patronage of soldiers from Ft. Leonard Wood has increased passenger revenues from $26,569 during the first nine months of 1940 to $2,370,128 for the same period this year.

LOCOMOTIVES

THE WABASH has been authorized by the district court to spend $240,000 for three Diesel-electric locomotives.

THE ALTON has ordered one 4-000-hp. Diesel-electric passenger locomotive from the Electro-Motive Corporation.

PASSENGER CARS

U. S. War Dept. Asks Bids on 33 Passenger Cars

The United States War Department, Engineering Corps, is inquiring for 33 narrow-gage and two standard-gage passenger-train cars, the materials for which it is reported will receive an A-1-c priority rating, as follows:

Narrow-Gage	*Standard-Gage*
3 Baggage	1 Coach
16 Coach	1 Passenger-baggage
2 Dining	
5 Sleeping	
3 Mail	
4 Express	

THE MISSOURI PACIFIC has been authorized by the district court to spend $204,000 for the acquisition of 17 parlor cars and their conversion into coaches. The cars will be purchased from the Pullman Company.

FREIGHT CARS

THE CANADIAN NATIONAL has authorized the purchase of 415 40½-ft. box cars of 40 tons' capacity.

THE BURLINGTON REFRIGERATOR EXPRESS COMPANY has ordered 300 39-ft. 11-in. steel frame refrigerator cars of 40 tons' capacity for 1942 delivery from the company's own shops.

THE UNITED STATES NAVY DEPARTMENT, Bureau of Supplies and Accounts, is asking for bids, December 29, on ten steel gondola cars of 50 tons' capacity—reg. 844—N. S. A.

THE ELGIN, JOLIET & EASTERN has ordered 1,200 freight cars, placing 500 50-ton, 48 ½-ft., drop-end gondola cars each with the General American Transportation Corporation and the American Car & Foundry Company, and 200 50-ton, 50-ft. flat cars with the Ralston Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of October 18.

THE UNITED STATES WAR DEPARTMENT inquiry for freight cars for export to Iran and the Near East, originally reported in the *Railway Age* of December 6, comprises the following:

2000	40-ton, 8-wheel box
900	40-ton, 8-wheel high-side gondola
600	40-ton, 8-wheel low-side gondola
350	50-ton, 8-wheel flat
1000	20-ton, 4-wheel box
66	20-ton, 4-wheel caboose

IRON AND STEEL

THE WABASH has been authorized by the district court to spend $687,800 for new rails and fastenings.

Supply Trade

S. A. McWilliams, Ltd., Toronto, Ont., has been appointed representative of the **Permutit Company of Canada, Ltd.** in the province of Ontario.

The **Garland Ventilator Company,** Chicago, has opened a sales office at 75 E. Wacker drive, in that city, with **Mather Garland** as sales manager for the entire country.

William S. Wilbraham, manager of sales of **Lukenweld, Inc.,** Coatesville, Pa., has been promoted to manager of costs, and **Robert C. Sahlin,** assistant manager of sales, to the post of manager of sales.

T. W. Conrad has been appointed acting Omaha, Neb., manager by the **Graybar Electric Company,** replacing **F. J. Saffer,** whose illness has prevented his continuation in that post. Prior to his new appointment, Mr. Conrad had been sales manager of the Tulsa, Okla., office.

Ralph R. Hayes has been appointed eastern district sales manager of the **Buda Company,** with headquarters at New York, succeeding **Lew Crafts,** resigned. Mr. Hayes spent two years as eastern engine representative for the Caterpillar Tractor Company, five years in the U. S. Department of Justice Customs Agency service, six years as line construction officer of boats for the U. S. Coast Guard, Washington, D. C., and six years with the U. S. Navy.

OBITUARY

J. S. Marlowe, district representative for the Jessop Steel Company in Indianapolis, Ind., died November 2 in that city. He was 60 years of age. Mr. Marlowe had sold steel and steel products in the Indianapolis district for 35 years, during the last 20 of which he represented the Jessop Steel Company.

Luman R. Dewey, for many years associated with the American Brake Shoe & Foundry Co. until his retirement in 1933, died December 6, at his home in Cattaraugus, N. Y. He was 79 years of age. Mr. Dewey joined the American Brake Shoe & Foundry Co. in 1905 and was appointed western sales manager in 1917, serving in that capacity until his retirement.

Joseph A. Donahey, 63, manager of sales of the **Cleveland Frog & Crossing Co.,** with headquarters at Cleveland, Ohio, died at the Lakeside hospital in that city on December 8 after a short illness. Mr. Donahey was born at Boone, Iowa, and before the first World War served as chief engineer and general superintendent of the Akron, Canton & Youngstown. During the war he served as captain of Company C, 147th Engineers and after the war became sales and service engineer of the Cleveland Frog & Crossing Co., at Cleveland. A few years later he was promoted to manager of sales, which position he held until his death.

Correction

It was erroneously reported in the *Railway Age* of December 6, page 974, that **Robert Gillies,** vice-president of the Union Asbestos & Rubber Co., died on November 24. This item should have stated that **William R. Gillies,** vice-president of the Union Asbestos & Rubber Co., with headquarters at San Francisco, Cal., died on November 24. Mr. Gillies was born at Vincennes, Ind., on October 25, 1879. He entered railway service in 1914 in the mechanical department of the Oregon Short Line and in 1916 was promoted to mechanical engineer. He resigned from this position in 1919 to become assistant to the president of the Union Asbestos & Rubber Co., with jurisdiction over the development of products and sales. In 1922, he was elected vice-president in charge of western railroad sales and in November, 1939, was placed in charge of production, engineering and research, with headquarters at Cicero, Ill. In the following year he transferred his headquarters to San Francisco.

MORE THAN 1,100 YOUNG MEN are now serving their time as apprentices in Canadian National shops under the guidance of 21 instructors, according to A. H. Williams, general supervisor of apprentice training. The apprentices are being trained in eleven trades including mechanics, sheet metal, upholstering, electrical, patternmaking, boilermaking, smithy, car, moulding, pipefitting and painting. Some 200 full-fledged mechanics and artisans are being graduated each year in these trades. In the final year of their five-year training period, machinists and boilermakers are sent to roundhouses for experience in general locomotive running repairs and locomotive boiler repairs, and carmen are sent to running yards for experience in running car repairs and car inspection.

Continued on second left-hand page

INTRODUCING

THE LATEST IN MODERN SUPER STEAM POWER

the C&O's New "Allegheny Type" 2-6-6-6 Mallets

NOW BEING DELIVERED BY LIMA

These ten 2-6-6-6 type mallets, which are the first of their type ever to be built, will be used by the Chesapeake & Ohio to speed up freight transportation. This new design of super-power steam locomotive has been christened the "Allegheny Type" and will be used without helper engines by the Chesapeake & Ohio to increase train loads and reduce running time over the steep grades of the Allegheny Mountains.

The Chesapeake and Ohio Railway have recently placed another order for ten additional "Allegheny Type" locomotives to be exact duplicates of those now building.

LIMA LOCOMOTIVE WORKS, INCORPORATED
LIMA, OHIO

LIMA
LOCOMOTIVE WORKS
INCORPORATED

Financial

BALTIMORE & OHIO.—*New director.*—Richard R. Deupree, president of Procter & Gamble, Cincinnati, Ohio, was elected a director of this road at a meeting of its board held in New York on December 18. Mr. Deupree succeeds John J. Cornwell, general counsel of the road, whose resignation from the board was accepted at the same meeting.

BOSTON & MAINE.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a line extending from Hollis Depot, N. H., to Nashua, 4.6 miles, but has been denied authority to abandon the remainder of the line from Pepperell, N. H., to Hollis Depot, 3.1 miles.

CENTRAL VERMONT.—*New Director.*—George S. Stevenson, a banker and industrialist of Hartford, Conn., and New Haven, was elected a director of this road on December 12, succeeding the late E. K. Hubbard of Middletown. Mr. Stevenson is well versed in transportation matters, having served on the New England Governor's railroad committees in 1923 and 1932.

CHICAGO & NORTH WESTERN. — *Equipment trust certificates.*—This road awarded $3,800,000 of equipment trust certificates on December 16 to Harris Hall & Co. and associates on a bid of 100.31 for 2⅜s, representing an interest cost to the carrier of 2.35. The certificates, which mature in from one to 10 years, were re-offered at prices to yield 0.85 to 2.60 per cent.

ERIE.—*Abandonment of Ferry Service.*—This company has asked the Interstate Commerce Commission for authority to abandon a ferry between Jersey City, N. J., and West Twenty-Third Street, New York City, two miles.

ERIE.—*Reorganization, Securities, and RFC Loan.*—In order to carry out its final plan of reorganization under section 77 of the Bankruptcy Act, Division 4 of the Interstate Commerce Commission has authorized this company to amend its articles of incorporation so as to permit it to revest itself with its former properties which have been held by trustees. At the same time the reorganized company was authorized to issue the following new securities: $5,955,850 of first consolidated mortgage 4¾ per cent bonds, series A; $74,909,775 of first consolidated mortgage four per cent bonds, series B; $52,644,916 of general mortgage 4½ per cent income bonds, series A; $14,000,000 of collateral-trust four per cent notes; 390,013 shares of five per cent preferred stock, series A, par value $100; 526,449 shares of preferred stock, series B; 3,140,000 shares of common stock without par value; certificates of beneficial interest in 2,000,000 shares of the common stock which is to be pledged under an escrow agreement; scrip to be issued in lieu of fractions of bonds and shares of stock, anl warrants for the purchase of 2,685,855 shares of common stock to be deposited under the escrow agreement.

Meanwhile, Division 4 deferred action for further consideration as to the requested authorization for the issue of $2,960,000 of first consolidated mortgage four per cent bonds, series B, for distribution to holders of New York, Lake Erie & Western Docks & Improvement Company first mortgage bonds.

At the same time Division 4 authorized the reorganized company to borrow $14,000,000 from the Reconstruction Finance Corporation to carry out the reorganization. The loan will be evidenced by collateral-trust four per cent notes, dated as of July 1, 1941, and due on January 1, 1953. As collateral security for the loan the company will deposit and pledge with the RFC $17,500,000 of its first consolidated mortgage four per cent bonds, series B. Details of the loan application were set out in the *Railway Age* of December 6, page 974.

To simplify its corporate structure the company was authorized to acquire control by purchase of stock of the New York, Lake Erie & Western Coal & Railroad Company and of the West Clarion. Also, the reorganized company was permitted to purchase the properties of the following subsidiaries: Buffalo, Bradford & Pittsburgh; Columbus & Erie; Erie & Wyoming Valley; Jefferson; Moosic Mountain & Carbondale; New York, Lake Erie & Western Coal & Railroad Company; and West Clarion.

Previously, Division 4 had approved $1,000,000 as the maximum limit of expenses for the reorganization managers, without prejudice to a further consideration of the matter. Upon a further hearing, Division 4 has increased this figure to the amount originally asked by the reorganization managers, $1,443,440.

FLORIDA EAST COAST.—*Equipment Trust Certificates.*—The trustees of this company have been authorized by Division 4 of the Interstate Commerce Commission to assume the liability for $992,000 of three per cent equipment trust certificates previously assumed by the receivers on November 1, 1939, under the old equity reorganization procedure.

HAMPTON & LANGLEY FIELD.—*Bonds.*—This company has been authorized to issue $20,400 of first mortgage 10-year bonds, to be delivered at par in exchange for a like principal amount of its outstanding first mortgage bonds which matured on December 1, 1941.

ILLINOIS CENTRAL.—*Abandonment by the Dubuque & Sioux City.*—The Dubuque & Sioux City and the Illinois Central, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation thereof, extending from Anthon, Iowa, to the end of the line at Onawa, 29.7 miles.

ILLINOIS CENTRAL. — *Abandonment by the Yazoo & Mississippi Valley.* — The Yazoo & Mississippi Valley has been authorized by Division 4 of the Interstate Commerce Commission to abandon a branch line extending from Leland, Miss., easterly and southerly to the end of the branch at Yerger, 16 miles.

KANSAS CITY SOUTHERN.—*Abandonment by the Texarkana & Fort Smith.*—The Texarkana & Fort Smith and the Kansas City Southern, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon a line and the operation thereof, extending from Bear Creek Junction, Ark., to Horatio, 5.6 miles.

LOUISVILLE & NASHVILLE.—*Abandonment and Operation.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its line extending from Allingham, Tenn., to a point near Harriman, 16.6 miles, and to operate, under trackage rights, over a line of the Southern between Harriman, Tenn., and Oliver Springs, 13.6 miles. The change in operation and the abandonment were necessitated by the fact that the Tennessee Valley Authority is constructing a dam across the Tennessee River which will cause the inundation of some of the L. & N.'s tracks.

At the same time this company has been authorized to abandon a line extending from Sheffield, Ala., southerly to the end of the line in Tuscumbia, 2.3 miles.

MISSOURI-KANSAS-TEXAS.—*Extension of RFC Loan.*—This company recently asked the Interstate Commerce Commission to approve an extension to December 30, 1944, of the maturity of $2,314,239 due on a loan from the Reconstruction Finance Corporation which matures December 30, 1941. The amount outstanding on the loan is $2,814,239, and the company proposed to pay $500,000, thus leaving $2,314,239 still owing.

Now, due to the recent wage increases which the road will have to bear because of the negotiations between the carriers and the railway labor unions, the company feels that it cannot pay the $500,000 at this time, and requests authority from the commission to pay $100,000 at this time and to extend the remaining $400,000 to September 30, 1942, with the option of paying the whole or any part of that sum at any time prior to that date.

MISSOURI PACIFIC.—*Abandonment by the Mississippi River & Bonne Terre.*—The Mississippi River & Bonne Terre and the Missouri-Illinois, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon a line and the operation thereof extending southerly from Derby, Mo., to the end of the line at Turpin, 10.7 miles.

MISSOURI PACIFIC. — *Purchase.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to (1) purchase from its subsidiary, the Missouri-Illinois, a branch line extending from Collins, Ill., south to Chester, 10.7 miles, and (2) to abandon the northerly portion thereof extending from a point of connection with the main line at Collins, Ill., to engineer's station 108-47, two miles.

PENNSYLVANIA. — *Equipment trust certificates.*—This road awarded $18,465,000 of 2⅜ per cent equipment trust certificates, Series M, to Salomon Brothers & Hutzler, New York, and associates, on December 16, on a bid of 100.18, representing an interest cost to the carrier of approximately

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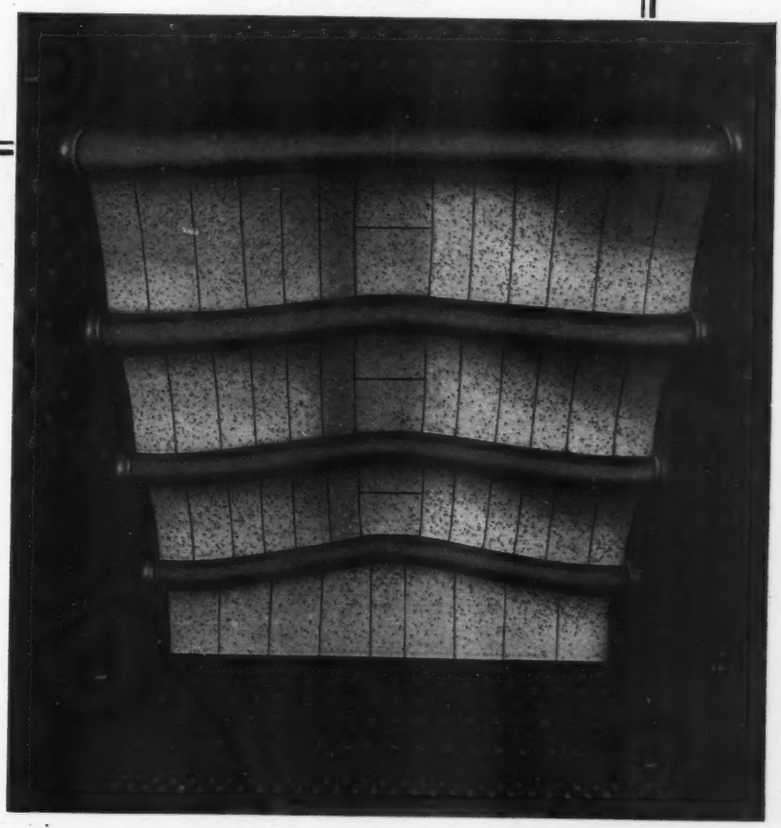
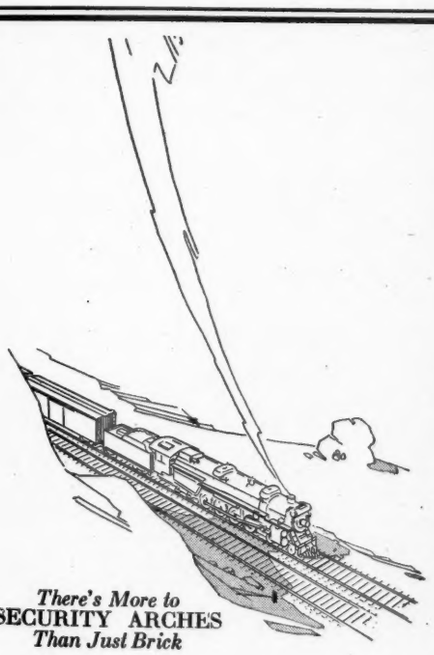
FUEL ECONOMY
is maximum ton-miles from every pound of fuel!

Security Brick Arches are correctly designed to compel every pound of fuel to develop its share of full boiler capacity.

Security Arch Brick are made from selected clays and carefully burned to assure maximum arch life in the locomotive firebox.

By every standard of value Security Arch Brick assures maximum economy.

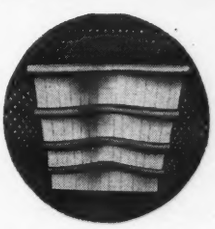




There's More to
SECURITY ARCHES
Than Just Brick

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

2.35. The certificates which mature in equal annual installments January 1, 1943, to 1957, inclusive, were immediately re-offered to the public, at prices to yield 0.75 to 2.60 per cent, according to maturity. A total of 86 firms, savings banks and insurance companies were invited to submit bids and a total of three bids were received, representing 39 participants.

SOUTHERN.—*Bank Debt.*—This road announced on December 11 pre-payment of remaining installments of bank loans aggregating $1,500,000. Maturity dates of the loans were February 15 and May 15, 1942. This payment represents the last of a total of $10,000,000 in bank loans negotiated early this year to pay off remaining Reconstruction Finance Corporation debt.

SOUTHERN PACIFIC.—*Operation by the Texas & New Orleans.*—The Texas & New Orleans has been authorized by Division 4 of the Interstate Commerce Commission to operate, under trackage rights, over lines of the Chicago, Rock Island & Gulf, and the Chicago, Rock Island & Pacific between Fort Worth, Tex., and North Fort Worth, including wye tracks at Dalwor Junction, 4.5 miles.

At the same time Division 4 dismissed an application of the T. & N. O. for a certificate of convenience and necessity authorizing and confirming the discontinuance and abandonment of operations under trackage rights, over a line of the Rock Island between Fort Worth, Tex., and North Fort Worth, 4.9 miles, including 0.6 mile of wye tracks, and from Dalwor Junction in North Fort Worth, Tex., to Dallas, 31.7 miles. Since the T. & N. O. had discontinued the operations now sought to be abandoned, Division 4 took the position that it had nothing to act upon and dismissed the application. "Furthermore," said the decision, "we are not empowered to authorize the abandonment by a carrier of its mere right to operate over the railroad of another carrier as distinguished from its operation over such railroad, or, as requested by the applicant herein, to authorize and confirm the discontinuance and abandonment of operations or rights in connection therewith that have already been discontinued and abandoned."

SUMPTER & CHOCTAW.—*Deficit Settlement.*—Division 4 of the Interstate Commerce Commission has found that the amount payable to this company under the provisions of section 204 of the Transportation Act of 1920, as amended, is $10,261, from which no amount is deductible as due to the President, as operator of transportation systems under federal control, on account of traffic balances or other indebtedness.

WABASH. — *Sale Approved.* — On December 15, Judge Charles B. Davis of the United States District court at St. Louis, Mo., approved the sale of the Wabash at public auction on December 1, thus returning this road to private operation after 10 years of receivership. As reported in the *Railway Age* of December 6, the Wabash was purchased by the reorganization managers for $31,030,950. The reorganization plan, which was approved by the court last August, reduces capitalization from $330,759,265 to $192,647,795 and fixed interest charges from $7,391,362 to $2,558,418. It also permits the Pennsylvania, which owned working control of the Wabash, to purchase at least 50 per cent of the voting shares of the reorganized company.

Average Prices of Stocks and Bonds

	Dec. 16	Last week	Last year
Average price of 20 representative railway stocks..	25.45	25.72	29.24
Average price of 20 representative railway bonds..	62.57	60.01	61.36

Railway Officers

EXECUTIVE

William Rogers Coe, whose election as vice-president and treasurer of the Virginian, with headquarters at New York, was reported in the *Railway Age* of December 13, was born in New York on March 22, 1901. Mr. Coe attended United

William Rogers Coe

States Naval Academy and in May, 1923, he entered the investment banking business, specializing in railroad securities. He was associated with the National City Company of New York until May, 1933, when he became associated with Harriman Ripley & Co., Inc. Mr. Coe will sever his connection with the latter company on January 1, when his new position becomes effective. William Rogers Coe is the son of William Robertson Coe, who is also a vice-president of the Virginian, in addition to being a director and chairman of the executive committee.

OPERATING

W. J. Pescud, acting assistant superintendent on the Canadian Pacific at Vancouver, B. C., has been promoted to assistant superintendent at Cranbrook, B. C., succeeding **I. J. McNaughton,** who has been transferred to Vancouver, relieving **W. D. McLeod,** who has been granted a leave of absence because of ill health.

W. L. More, trainmaster on the Atchison, Topeka & Santa Fe at Fresno, Cal., has been promoted to superintendent of the San Francisco Terminal division, with the same headquarters. This division, which was consolidated with the Valley division in 1938, has been re-established and includes the territory from San Pablo, Cal., to and including San Francisco, Cal.

C. A. Nummerdor, trainmaster on the Chicago, Milwaukee, St. Paul & Pacific at Tacoma, Wash., has been promoted to assistant superintendent, with headquarters at Lewistown, Mont., succeeding **R. G. Webb,** whose appointment as superintendent of air brakes, with headquarters at Milwaukee, Wis., is reported elsewhere in these columns. **J. O'Dore,** trainmaster at Miles City, Mont., has been transferred to Tacoma, relieving Mr. Nummerdor, and **R. C. Schwichtenberg** has been appointed trainmaster at Miles City, replacing Mr. O'Dore.

Clarence R. Tucker, superintendent on the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., has been promoted to acting assistant general manager of the Southern district of the Western lines of the Atchison, Topeka & Santa Fe, with headquarters at Amarillo, Tex., succeeding **George H. Minchin,** whose appointment as acting general manager of the Western lines, with headquarters at Amarillo, was reported in the *Railway Age* of October 25. **O. H. Osborn,** trainmaster on the Santa Fe at El Paso, Tex., has been promoted to acting superintendent of the Gulf division of the G. C. & S. F., relieving Mr. Tucker, and **S. S. Allison,** trainmaster on the Santa Fe at Wellington, Kan., has been transferred to El Paso, replacing Mr. Osborn. **Leonard M. Olson,** trainmaster on the Slaton division of the Panhandle & Santa Fe, has been transferred to Wellington, succeeding Mr. Allison, and **Roy C. Matthews,** division engineer of the P. & S. F., with headquarters at Slaton, Tex., has been advanced to acting trainmaster of the Slaton division, with the same headquarters, relieving Mr. Olson.

ENGINEERING & SIGNALING

R. C. O'Mar has been appointed supervisor of work equipment of the Western lines of the Southern, with headquarters at Cincinnati, Ohio, a newly created position.

N. M. Waddell, assistant division engineer on the Canadian National at Brandon, Man., has been promoted to division engineer of the Portage-Brandon division, with headquarters at Winnipeg, Man., succeeding **E. R. Millidge,** deceased.

TRAFFIC

John L. Cahoon has been appointed district freight agent, Southern system, with headquarters at Sheffield, Ala.

George W. Lee, assistant to the general superintendent of the Minnesota Transfer Railway, with headquarters at St. Paul, Minn., has been appointed general agent for the Minneapolis & St. Louis in the Midway district (or Minnesota Trans-

Continued on next left-hand page

ELESCO

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fer area) of the Twin Cities, a newly created position, with headquarters at St. Paul.

John A. Martin has been appointed assistant general freight agent, of the Baltimore & Ohio, with headquarters at Baltimore, Md., succeeding **Harold A. Williams,** who has been appointed assistant general freight agent (solicitation), with the same headquarters, to succeed **John L. Hayes,** whose death on November 9 was reported in the *Railway Age* of November 15.

John Russel Coulter, whose appointment, effective January 1, as chief traffic officer of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of December 13, was born at Millbury, Mass., on June 4, 1900, and attended Colby college, Waterville, Me. He entered railway service on September 1, 1926, as a clerk in the traffic department of the Frisco at St. Louis, later being promoted successively to chief clerk and special representative. On April 1, 1928, he was advanced to assistant executive agent at Kansas City, Mo., later being promoted successively to assistant traffic manager and traffic manager at that point. On December 1, 1934, Mr. Coulter was advanced to general traffic manager, with headquarters at St. Louis.

John Russel Coulter

MECHANICAL

R. G. Webb, assistant superintendent on the Chicago, Milwaukee, St. Paul & Pacific at Lewistown, Mont., has been appointed superintendent of air brakes, with headquarters at Milwaukee, Wis., a newly created position. **James Elder,** supervisor of air brakes, with headquarters at Milwaukee, will continue in that position as assistant to Mr. Webb.

Paul O. Christy, superintendent of equipment on the Illinois Central, with headquarters at Chicago, has been promoted to general superintendent of equipment, with the same headquarters, succeeding his brother, **G. C. Christy,** who has retired because of ill health. **J. N. Fox,** master mechanic at Jackson, Tenn., has been promoted to superintendent of equipment at Chicago and **W. L. Jones,** master mechanic at Champaign, Ill., has been transferred to Jackson, replacing Mr. Fox. **D. L. McMillan,** assistant master mechanic of the Markham terminal (Chicago) has been promoted to master mechanic at Champaign, relieving Mr. Jones. A photograph and biography of Mr. Paul O. Christy were published in the *Railway Age* of March 8, following his promotion to superintendent of equipment on February 16, 1941.

Mr. G. C. Christy was born at Holly Springs, Miss., in 1884, and entered railroad service as a helper in the paint shop of the Illinois Central at Water Valley, Miss., in 1898, while on vacation from school. Two years later he was transferred to the machine shop as an apprentice and upon the completion of his apprenticeship in March, 1904, he served until 1911 as a machinist and a foreman. In October of the latter year he was advanced to general foreman at Water Valley and in December, 1914, he was transferred to McComb, Miss. Mr. Christy was promoted to master mechanic of the Greenville and New Orleans division, with headquarters at Vicksburg, Miss., in July, 1917, and in 1926, his jurisdiction was extended to include the Vicksburg Route division. On November 1, 1929, he was further advanced to superintendent of the car department, with headquarters at Chicago, and on November 1, 1937, he was promoted to superintendent of motive power. In March, 1939, he was appointed general superintendent of equipment, which position he held until his retirement because of ill health, which was effective December 16.

SPECIAL

Walter Scott Thompson, whose appointment as director of public relations of the Canadian National, with headquarters at Montreal, Que., was reported in the *Railway Age* of December 13, was born at Newcastle-on-Tyne, England, on October 22, 1885. Educated at Rutherford College, Newcastle, he entered newspaper work in Fleet street, London, England, serving successively on the St. James Gazette, the Daily Express, the Evening Standard and the Observer. Leaving England he visited in turn South Africa, Australia, New Zealand and the South Sea Islands, working on various newspaper assignments. In 1911 he went to Canada and in the following year became city editor of the old Montreal Witness. One year later he was appointed city editor of the Montreal Herald, which position he held until his appointment as press representative of the Grand Trunk and Grand Trunk Pacific in 1914. With the amalgamation of these lines into the Canadian National system in 1922 Mr. Thompson became director of publicity of the Canadian National railways, hotels, steamships and associated enterprises. Subsequently he was given direction also of the company's advertising and radio activities. On December 17, 1937, he was also appointed director of publicity, Trans-Canada Air Lines. At the outbreak of war in 1939 Mr. Thompson organized censorship and public information services for the Dominion government.

Walter S. Thompson

OBITUARY

Edward M. Wrenne, who retired on October 1 as superintendent of transportation of the Nashville, Chattanooga & St. Louis, with headquarters at Nashville, Tenn., died at Tampa, Fla., on December 12.

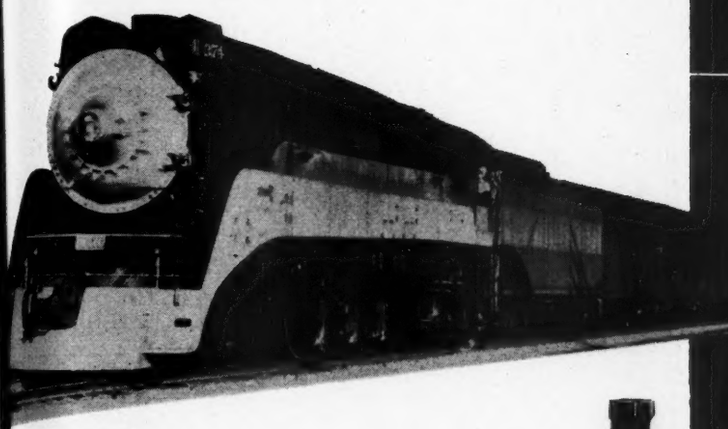
William H. McAmis, mechanical superintendent of the Southern district of the Missouri Pacific, with headquarters at St. Louis, Mo., died at the Washington Boulevard Hospital, Chicago, on December 17, after suffering a stroke while on a train enroute to Chicago.

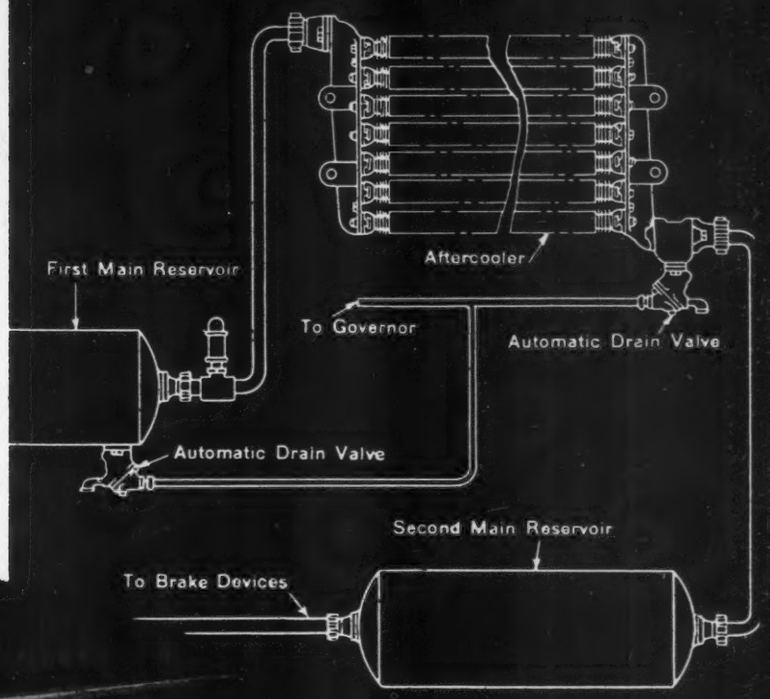
W. J. Allen, superintendent of telegraph of the St. Louis Southwestern, with headquarters at Tyler, Tex., whose death at Texarkana, Ark., on November 27, was reported in the *Railway Age* of December 13, was born at Centralia, Ill., on October 7, 1868, and entered Cotton Belt service in 1889 as a telegraph operator and clerk at Ft. Worth, Tex. He was later transferred to Pine Bluff, Ark., and in 1894 he was appointed chief clerk to the superintendent of telegraph at Tyler. On July 15, 1923, he was promoted to superintendent of telegraph, the position he held until his death.

George W. Trout, signal engineer and superintendent of telegraph of the Pere Marquette, with headquarters at Detroit, Mich, died suddenly on December 13. Mr. Trout was born at Girard, Pa., on February 22, 1877, and in 1895 he went to work in the shops of the Union Switch & Signal Co. at Swissvale, Pa. The following year, he went with the Michigan Central as a relay repairer and was subsequently promoted to signal foreman and then inspector and general foreman. In 1902 he went with the Terminal Railroad Association of St. Louis as an inspector and general foreman and in 1905 he returned to the Union Switch & Signal Co., as a foreman. Mr. Trout went with the Chicago, Rock Island & Pacific a year later as a general foreman and was later promoted to signal supervisor. In 1911 he became signal engineer of the Pere Marquette and in 1914 he was appointed also superintendent of telegraph, which positions he held until his death.

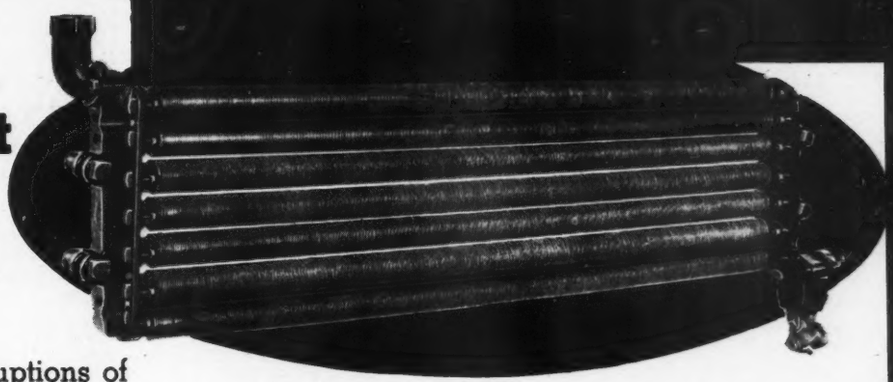
Table of Operating Revenues and Expenses appears on next left-hand page

DRY AIR





Helps Prevent *Train Delays*



Have you ever charged costly interruptions of train service to faulty brake operation? Perhaps they were caused by condensation in pipes and valves, which could have been prevented if the air were cooled to atmospheric temperature, and precipitated moisture ejected, before reaching the last main reservoir ● It is sometimes difficult, however, to insure dry air with conventional radiating means on modern locomotives because space limitations preclude installation of sufficient pipe in a favorable location ● This difficulty is overcome by our radiator type Aftercooler. It eliminates involved piping, conserves space, can be readily located in the path of natural air currents, and, is the most efficient cooling means yet devised. Moreover, precipitated moisture is automatically ejected whenever the compressor governor operates ● Many of these Aftercoolers have been installed, with outstanding results. On one particular railroad where formerly valves and connections were dripping with moisture, after a 30 mile run from humid valley to cool mountain top, they now remain bone dry. Admittedly, dry air has here helped maintain brake performance integrity, and thereby contributed to consistency of train operation ● The Aftercooler can perform a similarly-effective service for you also. » »

WESTINGHOUSE AIR BRAKE COMPANY

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 133 Monthly Reports of Revenues and Expenses Representing 137 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF OCTOBER, 1941 AND 1940

Item	United States		Eastern District		Southern District		Western District	
	1941	1940	1941	1940	1941	1940	1941	1940
Miles of road operated at close of month	232,061	232,674	57,113	57,349	44,045	44,240	130,903	131,085
Revenues:								
Freight	$440,121,849	$348,195,827	$183,162,619	$143,354,717	$84,526,106	$64,780,741	$172,433,124	$140,060,369
Passenger	42,230,773	33,465,179	21,581,304	19,093,058	6,757,538	4,189,472	13,891,931	10,182,649
Mail	9,281,601	8,620,209	3,446,790	3,373,285	1,573,482	1,442,809	4,261,329	3,804,115
Express	4,978,862	5,548,054	1,851,557	2,531,325	918,194	959,196	2,209,111	2,057,533
All other operating revenues	20,991,874	17,883,003	9,925,979	8,554,555	2,724,326	2,137,126	8,341,569	7,191,322
Railway operating revenues	517,604,959	413,712,272	219,968,249	176,906,940	96,499,646	73,509,344	201,137,064	163,295,988
Expenses:								
Maintenance of way and structures	62,628,498	47,216,460	25,357,643	18,935,206	10,615,775	8,219,347	26,655,080	20,061,907
Maintenance of equipment	96,646,099	74,028,150	45,326,464	34,561,215	17,673,323	13,983,208	33,646,312	25,483,727
Traffic	10,029,026	8,853,603	3,666,486	3,237,561	2,010,900	1,707,213	4,351,640	3,908,829
Transportation—Rail line	175,183,162	132,416,332	80,805,282	60,021,359	29,069,699	21,531,367	65,308,181	50,863,606
Transportation—water line	19,239	630,947	.....	.....	.....	.....	19,239	630,947
Miscellaneous operations	4,486,222	3,204,605	1,994,083	1,450,850	554,805	347,503	1,937,334	1,406,252
General	12,966,625	10,916,071	5,146,624	4,255,778	2,636,238	2,277,706	5,183,763	4,382,587
Transportation for investment—Cr.	457,156	485,869	90,663	103,521	40,367	53,224	326,126	329,124
Railway operating expenses	361,501,715	276,780,299	162,205,919	122,358,448	62,520,373	48,013,120	136,775,423	106,408,731
Net revenue from railway operations	156,103,244	136,931,973	57,762,330	54,548,492	33,979,273	25,496,224	64,361,641	56,887,257
Railway tax accruals	50,073,786	38,300,701	21,062,329	16,092,642	11,758,283	8,436,112	17,253,174	13,771,947
Railway operating income	106,029,458	98,631,272	36,700,001	38,455,850	22,220,990	17,060,112	47,108,467	43,115,310
Equipment rents—Dr. balance	9,485,057	8,194,817	4,691,372	3,823,081	—267,646	—1,166	5,061,331	4,372,902
Joint facility rent—Dr. balance	2,887,275	2,798,101	1,529,237	1,504,779	319,791	352,593	1,038,247	940,729
Net railway operating income	93,657,126	87,638,354	30,479,392	33,127,990	22,168,845	16,708,685	41,008,889	37,801,679
Ratio of expenses to revenues (per cent)	69.8	66.9	73.7	69.2	64.8	65.3	68.0	65.2
Depreciation included in operating expenses	18,139,831	17,399,416	7,920,366	7,657,800	3,836,382	3,458,085	6,383,083	6,283,531
Pay roll taxes	14,065,838	10,428,693	6,351,665	4,572,280	2,453,890	1,815,904	5,260,283	4,040,509
All other taxes	36,007,948	27,872,008	14,710,664	11,520,362	9,304,393	6,620,208	11,992,891	9,731,438

FOR TEN MONTHS ENDED WITH OCTOBER, 1941 AND 1940

Item								
Miles of road operated at close of month*	232,281	232,875	57,256	57,376	44,149	44,307	130,876	131,192
Revenues:	$3,673,104,636	$2,913,827,413	$1,571,904,511	$1,232,494,485	$713,913,624	$583,975,742	$1,387,286,501	$1,097,357,186
Freight	420,299,976	345,184,324	216,547,802	187,568,933	70,388,998	49,051,668	133,363,176	108,563,723
Passenger	86,862,273	81,203,965	32,167,925	31,180,804	14,875,151	13,823,598	39,819,197	36,199,563
Mail	48,429,066	45,097,993	19,253,908	19,139,722	9,529,250	8,684,562	19,645,908	17,273,709
Express	181,432,038	155,252,070	88,724,963	75,514,651	22,158,193	19,187,360	70,548,882	60,550,059
All other operating revenues	4,410,127,989	3,540,565,765	1,928,599,109	1,545,898,595	830,865,216	674,722,930	1,650,663,664	1,319,944,240
Railway operating revenues								
Expenses:								
Maintenance of way and structures	493,255,862	421,125,903	200,350,082	163,438,043	85,886,871	77,659,548	207,018,909	180,028,312
Maintenance of equipment	808,024,696	679,469,874	377,037,676	306,167,509	149,767,860	133,589,320	281,219,160	239,713,045
Traffic	92,338,808	89,641,077	33,115,716	32,458,369	18,034,718	17,197,239	41,188,374	39,985,469
Transportation—Rail line	1,431,096,299	1,231,192,817	660,851,461	563,650,572	239,436,379	208,808,945	530,808,459	458,733,300
Transportation—water line	3,102,086	5,524,191	.....	.....	.....	.....	3,102,086	5,524,191
Miscellaneous operations	38,257,507	32,281,025	16,477,382	14,164,157	5,418,060	4,377,841	16,362,065	13,739,027
General	113,138,761	108,983,001	44,639,921	43,348,118	22,112,971	21,180,059	46,385,869	44,454,824
Transportation for investment—Cr.	3,196,260	3,711,417	537,500	673,338	587,852	638,890	2,070,908	2,399,189
Railway operating expenses	2,976,017,759	2,564,506,471	1,331,934,738	1,122,553,430	520,069,007	462,174,062	1,124,014,014	979,778,979
Net revenue from railway operations	1,434,110,230	976,059,294	596,664,371	423,345,165	310,796,209	212,548,868	526,649,650	340,165,261
Railway tax accruals	475,255,497	336,123,838	202,286,408	141,312,085	117,783,455	76,383,306	155,185,634	118,428,447
Railway operating income	958,854,733	639,935,456	394,377,963	282,033,080	193,012,754	136,165,562	371,464,016	221,736,814
Equipment rents—Dr. balance	84,175,126	80,331,515	40,423,766	38,862,699	868,857	2,100,588	42,882,503	39,368,228
Joint facility rent—Dr. balance	27,855,466	27,471,694	15,167,037	15,213,711	3,090,728	2,846,962	9,597,701	9,411,021
Net railway operating income	846,824,141	532,132,247	338,787,160	227,956,670	189,053,169	131,218,012	318,983,812	172,957,565
Ratio of expenses to revenues (per cent)	67.5	72.4	69.1	72.6	62.6	68.5	68.1	74.2
Depreciation included in operating expenses	180,298,506	171,199,856	79,014,028	74,470,722	36,628,130	34,475,986	64,656,348	62,253,148
Pay roll taxes	111,507,461	96,649,398	49,745,002	42,392,856	19,292,265	17,240,499	42,470,194	37,016,043
All other taxes	363,748,036	239,474,440	152,541,406	98,919,229	98,491,190	59,142,807	112,715,440	81,412,404

* Represents an average of the mileage reported at the close of each month within the period.

– Decrease, or other reverse.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.